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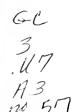
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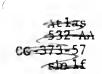
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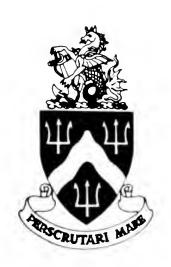
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## UNITED STATES COAST GUARD OCEANOGRAPHIC



## REPORT No. 57 cg 373-57

OCEANOGRAPHIC CONDITIONS IN NARES STRAIT

August-September 1970

Martin J. Moynihan



WASHINGTON, D.C. & AUGUST 1972



USCGC WESTWIND (WAGB 281)

#### **ABSTRACT**

Oceanographic observations from the CGC WESTWIND in the Nares Strait region during August and September 1970 are presented. Observed temperature-salinity characteristics are discussed in relation to the interchange of water between the Arctic Ocean and Baffin Bay and the formation of Baffin Bay Deep Water. An average northward transport of 0.48 x 10<sup>6</sup>m.<sup>3</sup> sec. from Smith Sound into Kane Basin was computed and is compared with previous transport calculations. The relationship of tidal and wind conditions to the volume transport is also discussed.

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### OCEANOGRAPHIC CONDITIONS IN NARES STRAIT AUGUST-SEPTEMBER 1970

Martin J. Moynihan 1

#### INTRODUCTION

Nares Strait is the system of channels and basins between Ellesmere Island and Northwest Greenland, connecting Baffin Bay with the Lincoln Sea and Arctic Ocean (fig. I). It includes (from south to north) Smith Sound, Kane Basin, Kennedy Channel, Hall Basin, and Robeson Channel. Since 1950, several Canadian oceanographers (Bailey, 1957; Collin, 1965; and Dunbar, 1951) have reported on cruises into Nares Strait to present their data and compare the results with the classical expeditions of the Danish GODTHAAB and CGC MARION in 1928.

Coast Guard vessels have also conducted several surveys into Northern Baffin Bay and Nares Strait to investigate the flow of Arctic Water through this channel. The results of surveys by CGC EVERGREEN and CGC EDISTO in 1963 and 1966 respectively have been reported by Franceschetti et al. (1964) and Palfrey and Day (1968). During August and September 1968, 1969, and 1970, the CGC WEST-WIND conducted oceanographic surveys in northern Baffin Bay under the auspices of the Baffin Bay-North Water Project, coordinated

by the Arctic Institute of North America and including groups from the University of Washington, U.S. Coast Guard, McGill University and Dartmouth College (Muench, 1971b). CGC EASTWIND and CGC SOUTHWIND completed oceanographic surveys in Kane Basin in September 1968 and 1969 respectively with field parties from the Coast Guard Oceanographic Unit and Naval Oceanographic Office on board (Moynihan, in press).

During August and September 1970, CGC WESTWIND conducted an oceanographic survey from Inglefield Bay on the western coast of Greenland, through the Smith Sound-Kane Basin region and into Kennedy Channel, Hall Basin, and Robeson Channel (figs. 2 and 3). This survey was a combination of two projects at the Coast Guard Oceanographic Unit: first, a continuation of an investigation of the iceberg producing glaciers on the western coast of Greenland and second, a continuation of the 1968 and 1969 surveys in the Nares Strait region to investigate the interchange of water between the Arctic Ocean and Baffin Bay.

#### DATA ACQUISITION AND PROCESSING

Temperature data and water samples were collected by Nansen casts. The water samples were analyzed on board with inductive salinometers. The conductivity values obtained were converted to salinity by use of the *International Oceanographic Tables* published jointly by UNESCO and the National Institute of Oceanography of Great Britain (1966). Water sam-

ples were also collected and frozen for later determination of inorganic phosphate, nitrate, nitrite, and silicate at the Coast Guard Ocean-ographic Unit using the techniques described by Strickland and Parsons (1968).

The temperature data were processed at the Coast Guard Oceanographic Unit following the procedures specified in the U.S. Naval Ocean-

<sup>&</sup>lt;sup>1</sup> Coast Guard Oceanographic Unit, Building 159-E, Navy Yard Annex, Washington, D.C. 20390.

ographic Office Publication No. 607 (1968). Paired protected thermometers were used on each bottle with unprotected reversing thermometers added on the deeper bottles. Sampling depths were determined from L–Z curves based on thermometric depth and wire angle. All calculations were performed on a PDP-5 digital computer utilizing programs described by O'Hagan (1964). Volume transports were computed using the method of subdividing each oceanographic section into solenoids for computations as described by Kollmeyer (1967).

Data were also obtained on 10 stations using a Bissett-Berman Model 9060 self-contained salinity-temperature-depth (STD) recorder. The STD data were quality controlled by comparison with temperatures and salinities obtained from deep-sea reversing thermometers and water samples collected at the surface and just above the STD at the bottom of the cast. An average quality control correction for the STD stations was determined from the differences between the STD data and the associated quality control samples and was applied to the raw data from the recorder.

The data presented in the Tables of Ocean-

ographic Data (app. A) are reproduced from computer listings from the National Ocean-ographic Data Center (NODC Cruise Numbers 31–8184 and 31–1705). Anomalies of dynamic height in the listings were computed by NODC, but all discussion of dynamic heights in this text is based on computations made at the Coast Guard Oceanographic Unit. Dynamic heights in water shallower than the reference level were computed in a manner similar to that of Helland-Hansen (1934), as described in detail by Kollmeyer (1967).

The survey and glaciological data from 27 glaciers will be published in a separate Coast Guard publication after the analysis is completed. Glacier fronts were charted, and benchmarks were established at survey stations wherever possible for reference during future surveys. Records were kept on ice movement and calving and on iceberg distribution around the glaciers and in the fjords and bays. Photographic overflights of the major glacier fronts were conducted by a Coast Guard HC-130 aircraft equipped with a T-11 aerial camera. Ship's helicopters were used to obtain oblique and vertical photographs of all glacier fronts.

#### DISCUSSION

The interchange of water between the Arctic Ocean and Baffin Bay takes place through Nares Strait, Jones Sound, and Lancaster Sound (fig. 1), but this flow is restricted due to limiting sill depths of 250, 175, and 180 meters respectively (Bailey, 1956). Nares Strait is the deepest and most direct path for this interchange and is of major importance in determining the water and heat budgets of the Arctic Ocean and Baffin Bay. The general bathymetry of Nares Strait consists of a narrow, deep channel running along the western side of the strait with a sill at 250 meters in central Kane Basin (fig. 4).

Previous investigators of the eastern Arctic have noted that waters at about 250 meters have characteristics (-0.3 C., 31.4000) similar to deep water found in Baffin Bay and have hypothesized that this water flows over the sill in Kane Basin and sinks to the bottom in Baffin Bay. Bailey (1957) and Collin (1965) concluded that this is not a continuous process

but probably takes place as an intermittent pulsing. Muench (1971a) suggests that this method is less common than previously indicated, and he upholds the theory of Sverdrup, Johnson, and Fleming (1942) that Baffin Bay Deep Water is formed by a mixture of Labrador Sea Deep Water and Baffin Bay Surface Water whose salinity had been increased sufficiently by freezing to cause the water to sink.

Examination of the water characteristics observed in Nares Strait in 1970 (figs. 17 and 18) shows water with the proper temperature-salinity relationship (< -0.3 C., >34.4% and 200 meters at station 20 over the sill in Kane Basin and at 300 meters at station 19 just south of the sill. However, water of proper salinity for deep water formation was not present in the passage between Kane Basin and Smith Sound. The distribution of salinity and density through Nares Strait (figs. 18 and 19) suggests the presence of an isopycnal wave of denser water overflowing the sill in Kane

Basin, Collin (1965) and Palfrey and Day (1968) interpreted similar density distributions as supporting a pulsing flow of high salinity Arctic Water into Smith Sound.

High salinity water of Atlantic origin ( $>0^{\circ}$  C.,  $>34.7\%_{00}$ ) was found below 300 meters in Hall Basin (figs. 17 and 18). This Arctic Intermediate Water is also effectively blocked from flowing southward into Baffin Bay by the shallow sill at 250 meters in Kane Basin.

Cold water of polar origin ( $<0^{\circ}$  C.,  $<34.0^{\circ}_{00}$ ) was found in the upper 200 meters throughout Nares Strait (figs. 17 and 18). This water makes up the major drift southward into Baffin Bay. Water having a temperature less than -1.50 C. was present to a depth of 75 meters in Hall Basin and to between 25 and 50 meters further south in Kane Basin.

A section across the southern end of Nares Strait was occupied three times in rapid succession from 3-5 September 1970 in an attempt to monitor the volume transport between Kane Basin and Smith Sound (fig. 2). Each occupation consisted of 6 stations, and the three occupations were completed in approximately 38 hours. The reference level for geostrophic calculations was selected based upon the deepest usable set of observations on each occupation. The results of the volume transport calculations are presented in table I.

Table I. Volume Transport From Smith Sound into Kane Basin.

Stations	Date		Net Transport (x106m,3/sec.)
1 to 6	3-4 Sep 1970	$-0.73^{-}$	10.574
7 to 12	4 Sep 1970	93	<sup>2</sup> .319
13 to 18	. 4-5 Sep 1970	76	.558
Average		81	.484

<sup>&</sup>lt;sup>1</sup> Reference level 500 decibars.

An average northeasterly transport of 0.48 x10°m, sec, between Smith Sound and Kane Basin was computed from the September 1970 observations. This average transport is biased due to the shallower sampling on the second occupation of the section that necessitated a shallower reference level for those calculations. Moynihan (in press) computed an average southward transport of 0.42 x10°m, sec, through this same section in July 1969.

These values agree with the results of the previous investigators in this region and

further substantiate the variability of the flow through Nares Strait. Collin (1965) cited Killerick's calculations of a 0.42 x10°m.³/sec. southward flow in August 1928 as the earliest estimate of the exchange through Kane Basin. Bailey (1956) found an average northward transport of 0.42 x10°m.³/sec. based on four sections in Smith Sound during August 1954 and Collin (1965) estimated an average southward transport of 0.24 x10°m.³/sec. based on five September sections from 1962, 1963, and 1964.

The variability of these geostrophic flow calculations indicates that the exchange of water between Kane Basin and Smith Sound is affected by frictional effects of the wind and bottom and the effect of tidal oscillations, as well as by uncertainties of the geostrophic method in shallow water.

To examine the tidal effect on flow from Kane Basin into Smith Sound, profiles of sea surface dynamic height from CGC WEST-WIND stations 1 through 18 were compared with the times and heights of high and low water at the Port Foulke (78°18′N., 72°45′W.) tide station (fig. 23), The Oceanographic Atlas of the Polar Seas, Part II (U.S. Naval hydrographic Office, 1958) shows cotidal lines progressing from Baffin Bay northward into Kane Basin indicating a northward tidal current on the rising tide. Although each occupation of the section between Kane Basin and Smith Sound occurred on a falling tide, a northeasterly geostrophic flow was calculated, suggesting either a lagging effect between the tidal phase and geostrophic flow or a reduced northeasterly flow due to the tidal current. Collin (1965) noted that ship drift records in 1962 indicated that in the center of the passage there was a southwesterly set of 0.5 to 2.0 knots during the falling tide and an equally strong northeasterly set with a rising tide.

Day (1968) reported that direct current measurements near 78 27°N, in Smith Sound in 1963 indicate a circulation dominated by semidiurnal tides with a net transport to the south. Muench (1971a) reported that current measurements from a fixed ice camp in Kane Basin indicate a general southward flow with occasional flow reversals coinciding with the diurnal tidal currents.

A progressive wind vector diagram (fig.

<sup>&</sup>lt;sup>2</sup> Reference level 300 decibars.

24), drawn from the surface wind observations of CGC WESTWIND at stations 1 through 18, was examined to study the effect of surface wind on the flow from Kane Basin into Smith Sound. A relatively steady wind (mean 10.0 kts. from 055 T.) with velocities varying from 4 to 15 knots was observed. This would induce a surface current transport to the southwest and would reduce the northeasterly flow into

Kane Basin. However, based on all information available, it is felt that permanent and tidal current effects would predominate, particularly when the winds were at such a low velocity.

The results of these observations indicate that year-round direct current, tidal and meteorological measurements are required to completely describe the total water circulation in this Nares Strait region.

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FIGURE 1. Geographic locations in the Nares Strait-Baffin Bay region.

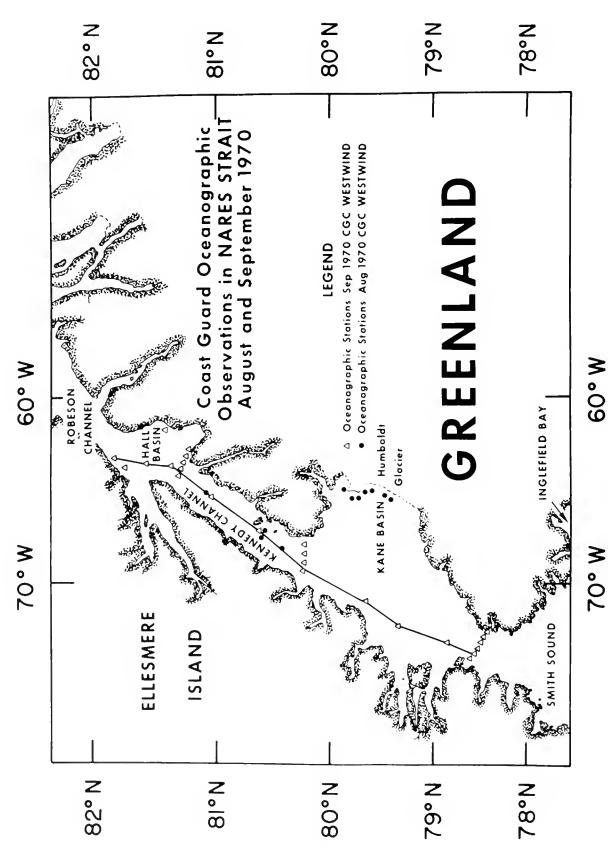


FIGURE 2. Positions of CGC WESTWIND oceanographic stations in Nares Strait during August and September 1970.

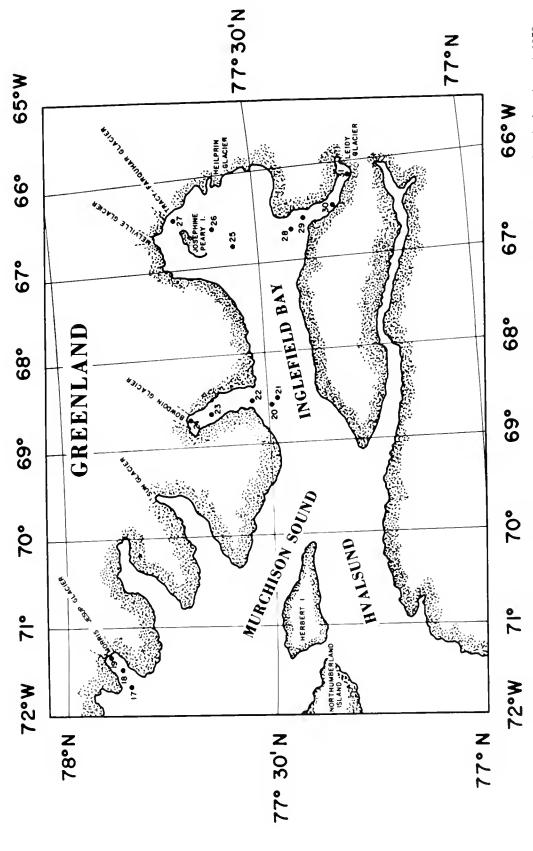


FIGURE 3. Positions of CGC WESTWIND oceanographic stations in northeastern Baffin Bay-Inglefield Bay region during August 1970.

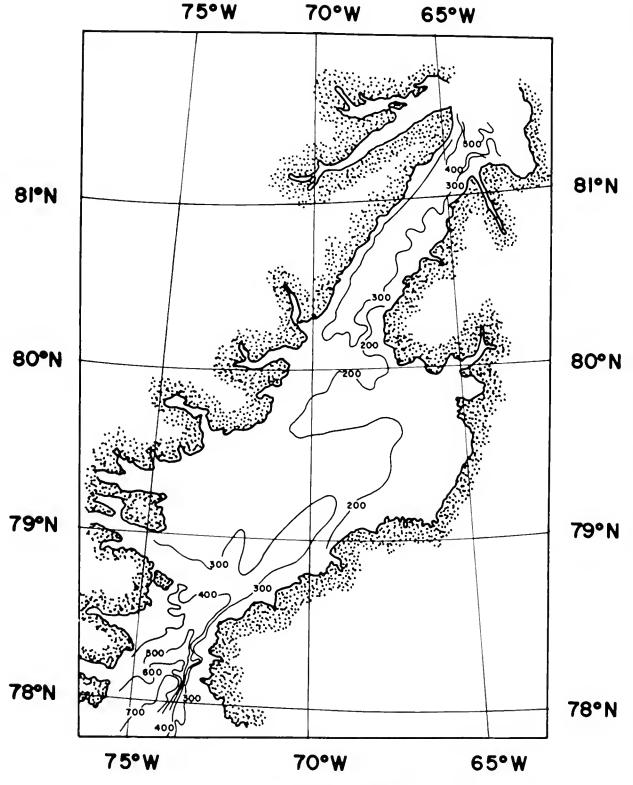


FIGURE 4. Bottom topography of Nares Strait.

## STATION NUMBER DEPTH(METERS) •-I.O N. MILES

FIGURE 5. Vertical distribution of temperature (° C.). CGC WESTWIND stations 1 through 6, 3-4 September 1970.

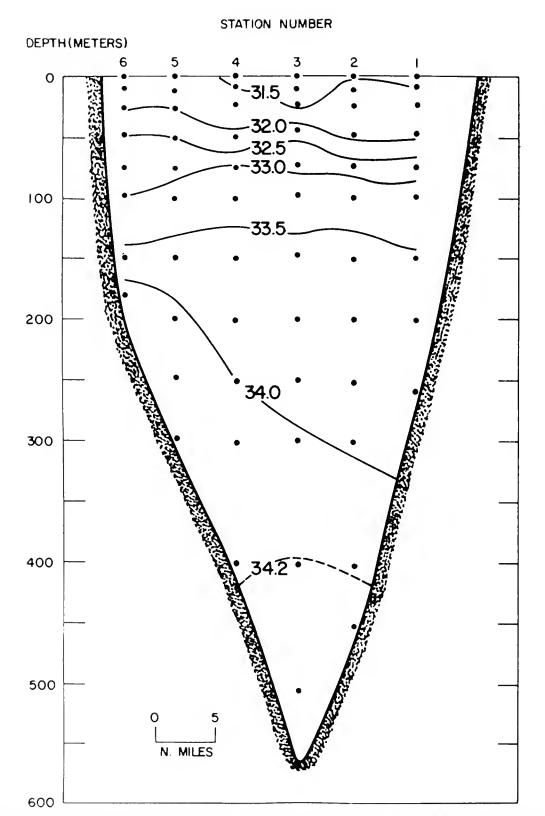


FIGURE 6. Vertical distribution of salinity (%). CGC WESTWIND stations 1 through 6, 3-4 September 1970.

## STATION NUMBER DEPTH(METERS) 0 ~25.5\_• -26.0 26.5 100 27.0 200 **3**00 400 500 N. MILES

FIGURE 7. Vertical distribution of density ( $\sigma_t$ ). CGC WESTWIND stations 1 through 6, 3-4 September 1970.

600

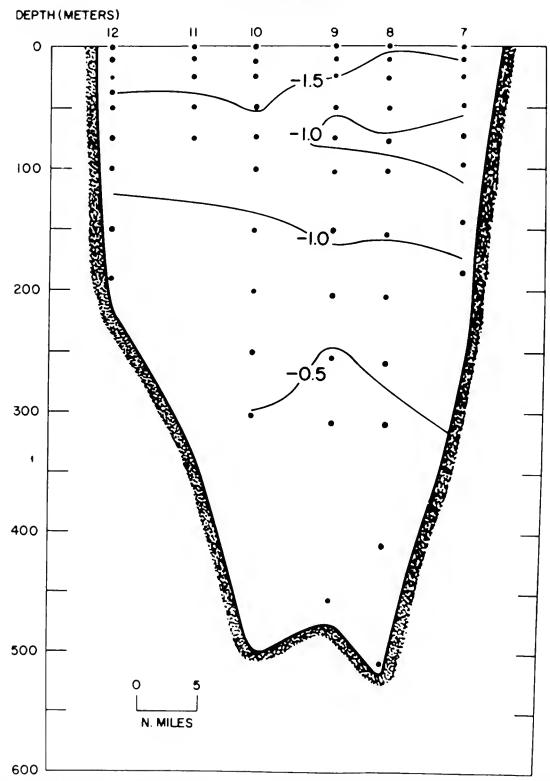


FIGURE 8. Vertical distribution of temperature (° C.). CGC WESTWIND stations 7 through 12, 4 September 1970.

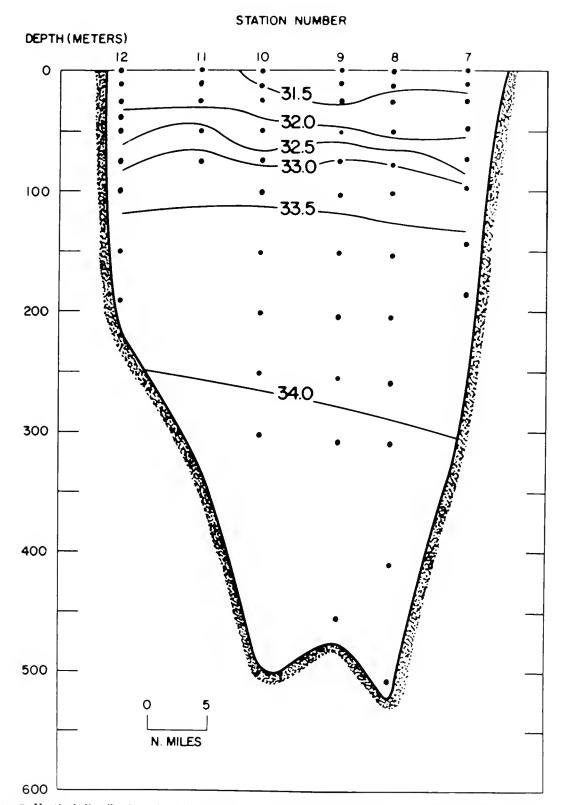


FIGURE 9. Vertical distribution of salinity (%), CGC WESTWIND stations 7 through 12, 4 September 1970.

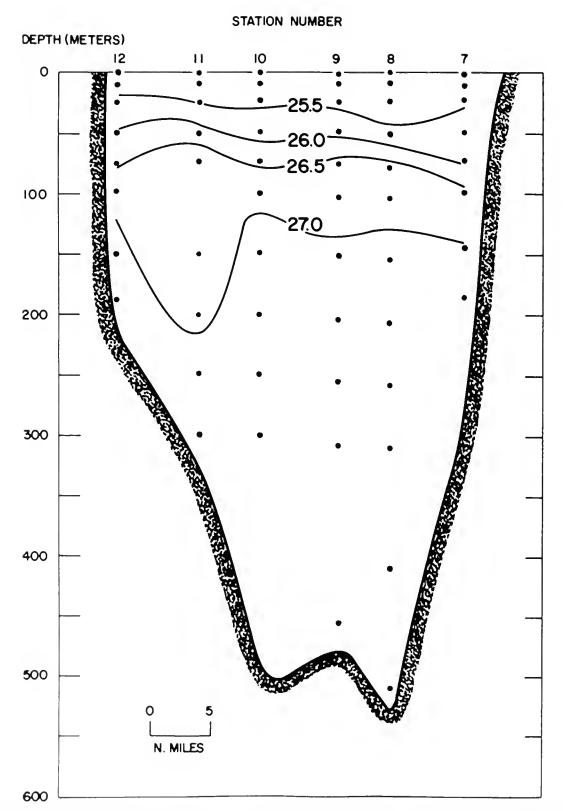


FIGURE 10. Vertical distribution of density ( $\sigma_t$ ). CGC WESTWIND stations 7 through 12, 4 September 1970.

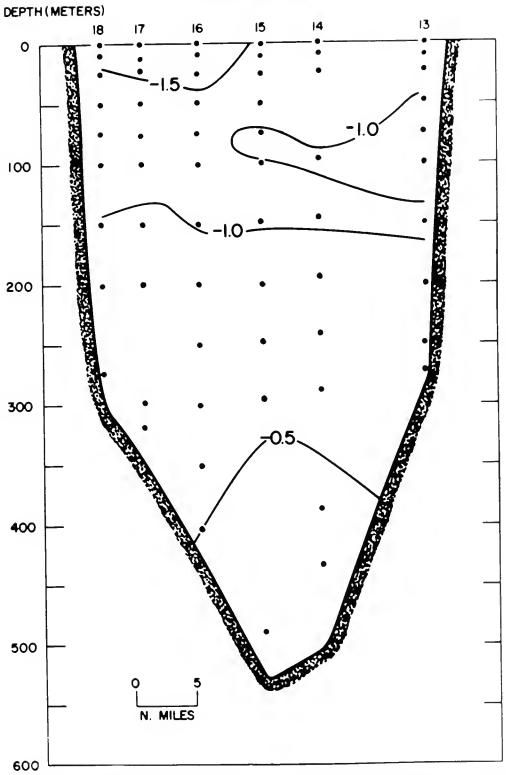


FIGURE 11. Vertical distribution of temperature (° C.). CGC WESTWINI) stations 13 through 18, 4-5 September 1970.

### STATION NUMBER DEPTH (METERS) 33.0 33.5 N. MILES

Figure 12. Vertical distribution of salinity ( $^{0}_{00}$ ), CGC WESTWIND stations 13 through 18, 4-5 September 1970.

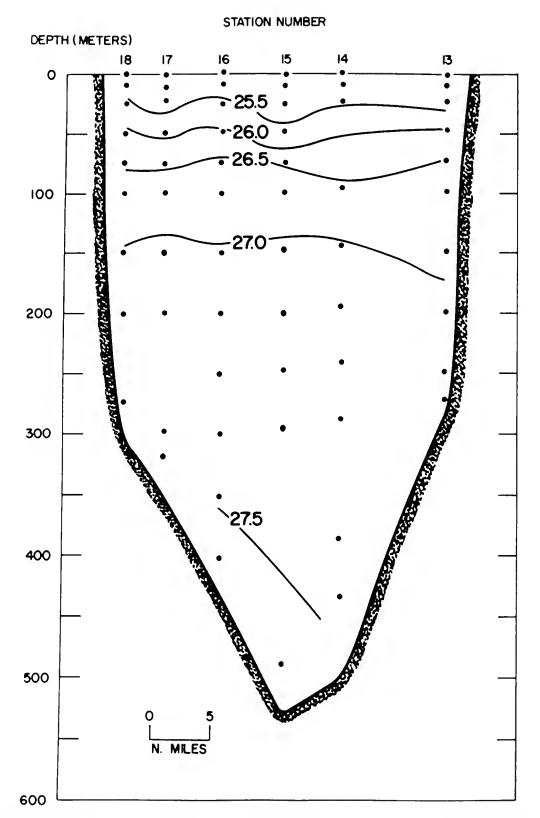


FIGURE 13. Vertical distribution of density (91). CGC WESTWIND stations 13 through 18, 4-5 September 1970.

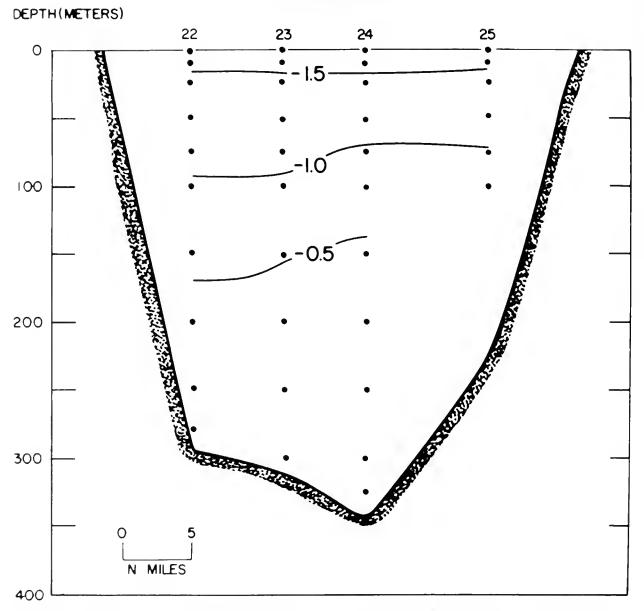


FIGURE 14. Vertical distribution of temperature (° C.). CGC WESTWIND stations 22 through 25, 5-6 September 1970.

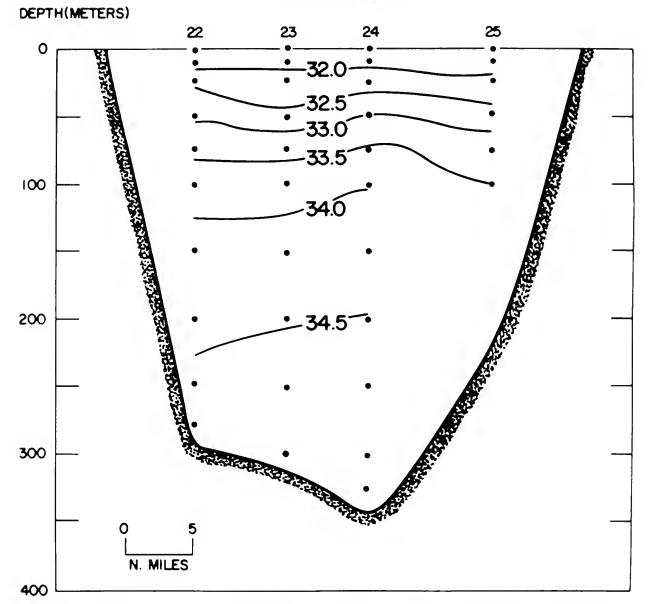


Figure 15. Vertical distribution of salinity (%). CGC WESTWIND stations 22 through 25, 5-6 September 1970.

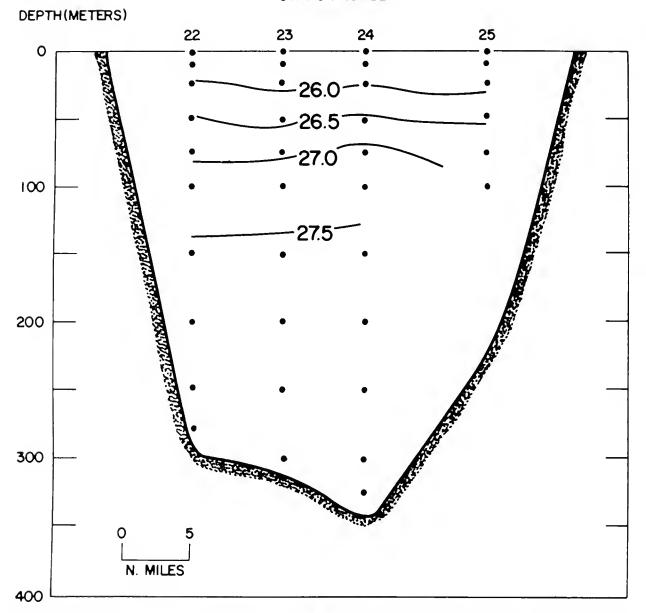


FIGURE 16. Vertical distribution of density ( $\sigma_t$ ). CGC WESTWIND stations 22 through 25, 5-6 September 1970.

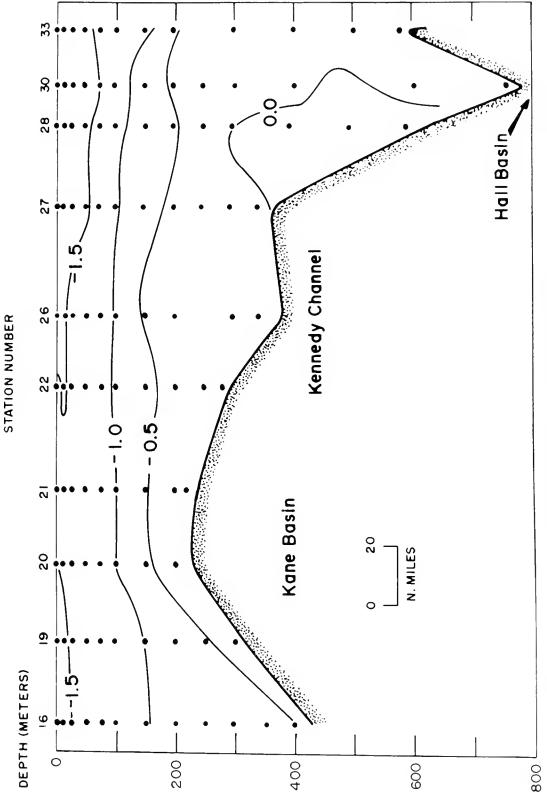


Figure 17. Vertical distribution of temperature (° C.) along a longitudinal section through Nares Strait, CGC WESTWIND survey, 5-9 September 1970.

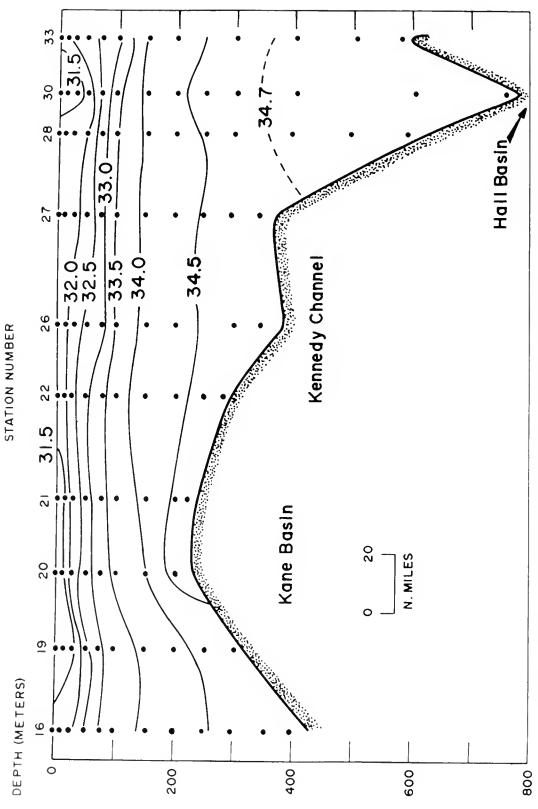


FIGURE 18. Vertical distribution of salinity (%) along a longitudinal section through Nares Strait, CGC WESTWIND survey, 5-9 September 1970.

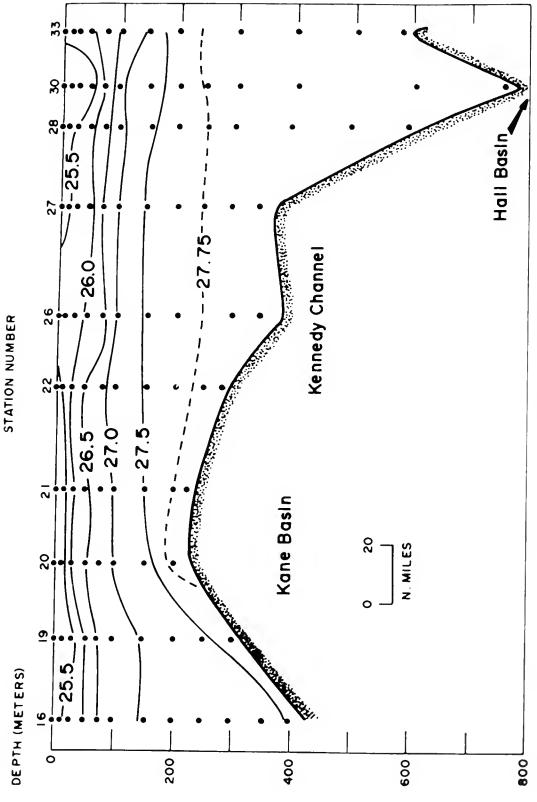


Figure 19. Vertical distribution of density (σι) along a longitudinal section through Nares Strait, CGC WESTWIND survey, 5-9 September 1970.

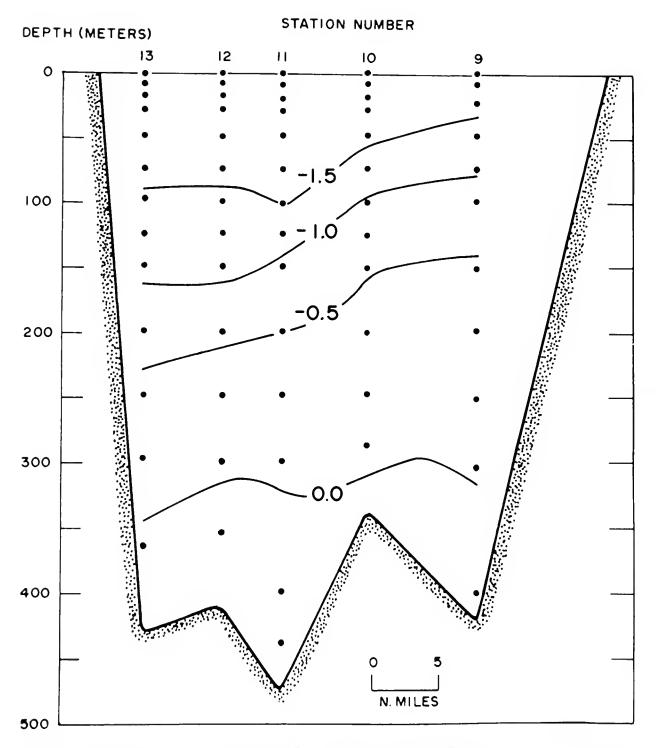


FIGURE 20. Vertical distribution of temperature ( C.). CGC WESTWIND stations 9 through 13, 19-20 August 1970.

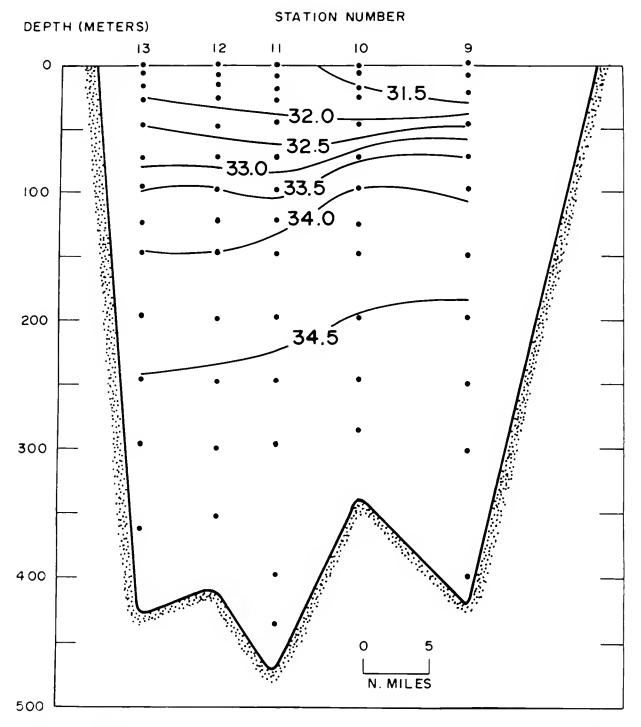


FIGURE 21. Vertical distribution of salinity (%)0). CGC WESTWIND stations 9 through 13, 19-20 August 1970.

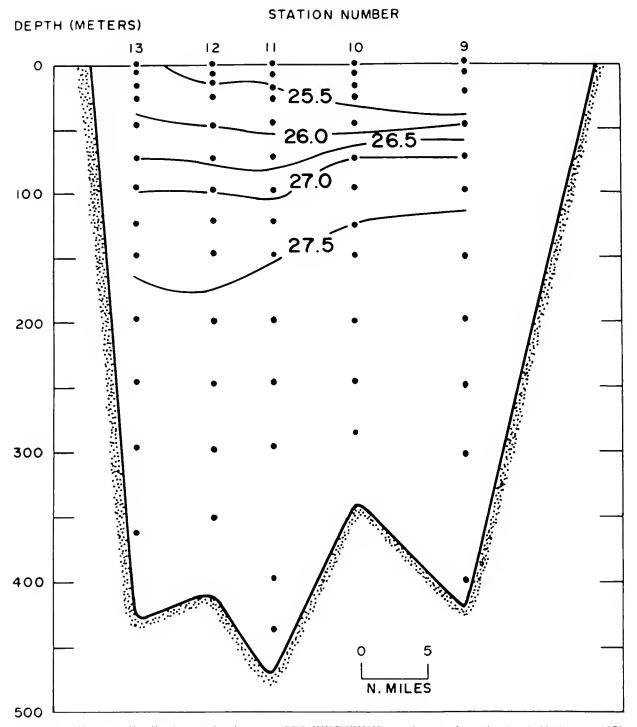


FIGURE 22. Vertical distribution of density ( $\sigma_t$ ) CGC WESTWIND stations 9 through 13, 19-20 August 1970.

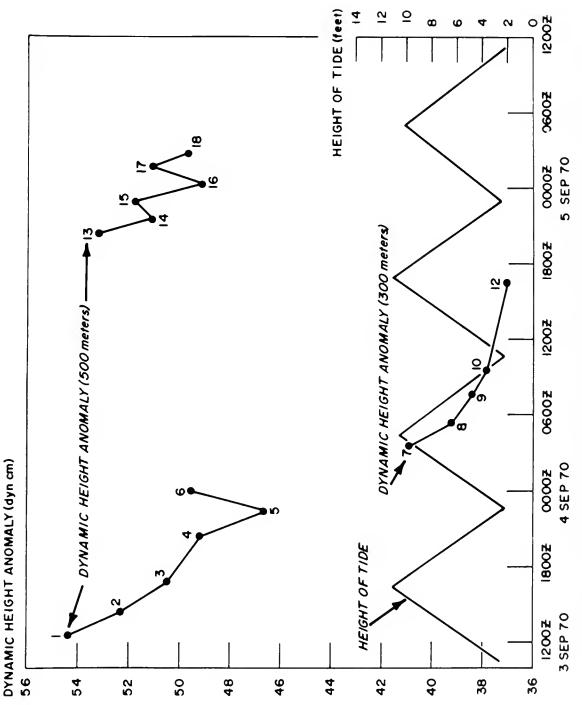


FIGURE 23. Anomaly of sea-surface dynamic height of CGC WESTWIND stations 1 through 18 and the height of tide at Port Foulke, Greenland tide station, 3-5 September 1970.

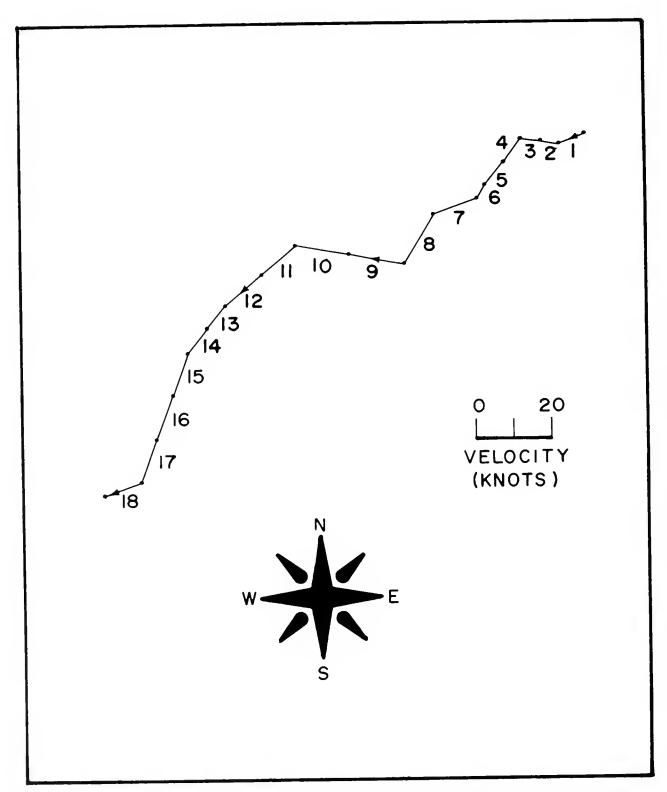


FIGURE 24. Progressive vector diagram of surface wind velocity at CGC WESTWIND stations 1 through 18, 3-5 September 1970.

## APPENDIX A

## OCEANOGRAPHIC DATA

## CRUISES LISTED

Table	Page
1.—CGC WESTWIND, Au	gust 1970
n.—ede what wind, bep	CHIOCI 1010
	CODES UTILIZED
National Oceanographic Dagraphic Stations. (Rev. Aug	of the codes utilized in the tabulation of oceanographic station data can be found in that Center publication M-2, Processing Physical and Chemical Data from Oceanographic station data listing, entry headings which are not self-explanatory are
Depth to Bottom	Corrected or uncorrected sounding in meters.
Max. Depth of Samples (if 2 digit code)	Depth of deepest sample in hundreds of meters to nearest hundred-meter interval. For internal use only.
DNP (if I digit code) Wave observations:	
D1R	Rounded to nearest multiple of 10 degrees.
HGT	Increments of $\frac{1}{2}$ m. Sum of 5 meters plus increments of $\frac{1}{2}$ m if 50 is added to direction.
PER	If numerals 2 through 9 are entered, period in seconds is twice the numeric entry of 2X (numeric entry) +1. For other entries see WMO Code 3155.
SEA	Sea state according to WMO Code 3700.
Weather Code	If preceded by X, weather according to WMO Code 4501. If a two-digit entry, weather according to WMO Code 4677.
Cloud Code:	
Type	Cloud type according to WMO Code 0500.
Amount	Cloud amount in eighths. Entry of the numeral 9 indicates cloud amount could not be estimated.
Water:	
Color Code	Color according to Forel-Ule scale.
Trans.	Transparency in whole meters as determined by Secchi disc.
Wind:	
Dir	Rounded to nearest multiple of 10 degrees.
Speed or Force	If preceded by letter S, wind speed in knots; if preceded by letter F, wind force according to Beaufort scale.
Barometer	Barometric pressure given in tens, units, and tenths of millibars.
Air Temp. ° C.	Air temperature to tenths of a degree Celsius.
Vis. Code	Visibility according to WMO Code 4300.

No. obs. depths \_\_\_\_\_ Number of observed levels associated with the station.

Messenger time	Entered in hours and tenths of an hour GMT. For Nansen casts, indicates time of release of messenger applicable to the observational level. For STD casts, indicates the starting time of lowering the sensor.
Card type	OBS designates observed levels. STD indicates the values at this standard level were interpolated by a modified 3-point LaGrange formula.
Depth (m.)	Depth to nearest meter. A postscript T indicates depth was obtained thermometrically; Z indicates uncorrected "wire out" depth. Postscript Q indicates value was marked doubtful by originator; P indicates value was considered doubtful by NODC. Postscripts P and Q retain this meaning throughout the following entries.
Т ° С.	Temperature to hundredths of a degree Celsius.
S %	Salinity in parts-per-thousand.
SIGMA-T	Entered to hundredths.
Specific-volume	Multiply entry by $10^{-7}$ to obtain specific-volume anomaly in cubic centimeters per gram.
$\Sigma\triangle D$ Dyn. M. $ imes$ 10 <sup>3</sup>	Multiply entry by $10^{-3}$ to obtain anomaly of dynamic depth in dynamic meters referenced to the sea surface.
Sound Velocity	Sound velocity according to Wilson's formula to tenths of a meter per second,
O2 ml./l	Dissolved oxygen in milliliters per liter entered to hundredths.
PO <sub>4</sub> -P μg-at/l	Inorganic phosphate in microgram-atoms per liter entered to hundredths.
Total-P μg-at/l	Total phosphorus in microgram-atoms per liter entered to hundredths.
NO <sub>2</sub> -N μg-at/l.	Nitrite-nitrogen in microgram-atoms per liter entered to hundredths.
NO <sub>3</sub> -N μg-at/l	Nitrate-nitrogen in microgram-atoms per liter entered to tenths.
SiO <sub>4</sub> -Si µg-at/l,	Silicate-silicon in microgram-atoms per liter entered to whole units.
рН	Entered to hundredths.

Table I.—Observed and interpolated oceanographic data from stations occupied by USCGC WESTWIND, 16-24 August 1970, prepared from NODC Listing No. 31-8184.

100 R	CBUISE NUMBER	SHIP	LATITU	DE LIG	LONGIT	NOF 1		LESDEN DUARE	STATE	GMTI	TIME -	TEAR	CRUISE		STATION NUMBER		DEFIN 10 KOTTOM	SAS Marki				re HONS HA THA	(	TATHER CODE	CLOUD		1	NODC STATION NUMBER
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				ST				173		61		54		002	23	70	00	79	_	370													
				UBS				173		61		254							_	370													
				ST				163		23		259		002	205	93	01.	25	_	384													
				UHS				16+		23		257							-	384													
				ST				114		62		270		001	.00	55	01	63	-	433													
				CHS				114		62		210				_			_	433													
				ST				093	_	07		274		000	100	14	01	84		454													
				0 H S S <b>T</b>				043		37		274				5.1	0.2		_	454													
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				UBS				053		30		275		930	, , (, ,	00	02.	4 3	_	484													
				ST				025		52		77		000	135	15	J2.	34		508													
				085				025		52		77		500	,,,	• )	02	J <b>T</b>		508													
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				บคร				003		67		73								535													

	SHIP	LATITUD	. T	10to Citude	. 8	LA #SDEN	STATION	TIME		0.	GINATO#	s	DEFIN	ш	Ť	WAVE	T	INSTR	T		NODC
EPIT CPUISE	CODE		, 10	LONGITUDE	32	QUAPT	(GMT		TEAR	CRUISE	STA1		fO #OTFOM	WENT/		SERVATION	_ (00	CLOUD			STATION
318184	uc o	1171	+ -	2034 704	++-	7 13	MONTH DAT	++	970	+	-	+	0475	2"	0.0	0 X	+	0 9		+	NUMBER
272724	WE 8	1111	114	3634 FUY	41 130		35 20		1970				04/5	2	00	0 X	X1	0 9		1	0011
	nia nanan i	-	11 H TT-		44 (8414 (875)	" DJ	r *s"。	WIND	BAFON		MPIBATU	e 'C	NUMBE I	5 <b>27</b> (14							
10 40-16	61 NAMES OF AS	HEND PE	-	m=		WATE	B ITEANS DE		Imbe	D	O18 WT	BUILB K CHOI	UEVELS C	DESERVA	IONS						
						UT	SD 2		08	2 -00	3 -0	04 7	14								
	Cast	-	Τ -		T		+	+	1 1		-	I	COMPU	110		AMBRNI (	CHT			TMIAS	UNED SOUN
	DUBATRIN	+	CAPD TIPE	DEFTH	(m)	1 °€	s	SICH		SMCBIC 1		RAD DTN M	VELOC		, -1	- lum_tm	Tasir.	T	F		OF ITY IN SE
	M19944 14						-	+			•	1 10 '	- 5	10		ing ear (	folial P	MO <sup>2</sup> N	My M	5 01 5	ρН
			ST			0146	3160			0025	534	0000									
	002		092			0145	3160	25					143			056			024	030	
			ST			0157	31.64	2.5		0025	1 48	0025									
			ORZ			0157	3164	25					143								
			ST			0168	31.72			002-	553	0050									
	503		UB \$			1163		25				_	143								
			51			0170		- 51		0023	041	0074									
			UKS			3173	31 83			3			143								
			12 0 b \$			(175	3771	2.5		002)	151	Jilo									
			ST			0175	3221 3272	2.5		2.31.		21.5	143								
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			S.T.			0152	3212			J011		0201									
			055			0152	3343	25		3011	234	0201	144								
			ST			0115	33 74	. 7.		0997	6.7.	J224									
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			5.1			00-1	3417			.) ) ) ) 5	937	0241									
			UMS			00-1	5417	274		,,,,,,	, ,	02.1	144								
			5.1			9052	1442	276		0304	. 44 4	0,05									
			1165			-0052	3442	27		550.	•	0.00	1 +++								
			ST			· 30124	3450			0002	535	U284									
			UdS			0025	5440	27			0		145								
			ST			1000	3403			3032	315	0277									
			OHS			· 3335	3463						140								
			ST	0 40	)) -	3014	3475	27		3331	F15	0518									
			Oris	()4 (		9914	39.75	2.7	+ 3				145								
			FIF-5	)4	id .	.))'-	_477	21	15				145	55		065			025	052	

SHIP LATIFUE	1 10	ONGITUDE		STATION II (Gast) - settle bat Tel	14AP	ORIGINATOR CRUPY STA	teore .	DOPOM NA	WAVE OBSERVATION DIR HIGIERS	(000	CLOUD TYPE AMI	NOOK STATIC NUMBI
4 WE 8118	6N 0	64110W	907 1+	08 50 0	$019_{-1970}$	WGS 012		0411 2	00 0 X	x 2	0 9	901
Mar of the Company of the Company	B (1.01 F8 00~ M)	11 00'UPN UPN M		.2.	M40 B10	and district the state of	<b></b> •	SHC SHC				
E MONTH DANIES DE ASTRESAS - E	48 (41 PM)	4	LONA	Amr. 14	Kan -	es, care eval es	A BULLA DOM	A HELS COSSESS	hoes			
			UT	50 19	\$04 0	85 U03 -0	001_7	14				
Casttool	CAPD	1	1			SMC NO NOM	1 40	COMPATED	- Auditrial	MGM		"MEASURED S
MINENS (M) CASI	TY PE	DEFTH -	1 1	5	Section 1	440	4 10	HLOCHY (	P <sub>2</sub> = 1	100m	40 <sub>1</sub> -N   HO <sub>1</sub> -N	3-03-3-
m. 10 mm)	STO	0000	-0144	3155	2539	0025924	0000	14378	+ ""	***	m=1 m=1	
013	085	0000	-0144	3155	2539	0023424	0000	14378	065		030	029
014	\$10	0010	-0167	3161	2545	0025406	0025		007		0,0	02 7
	085	0010	-0167	3161	2545	0023400	0025	14369				
	STU		-0176	3188	2557	0023302	0350					
001	UBS	0020	-0176	3188	2567			14370				
	STO		-0176	3195	2572	0022757	0073					
	08.5	0030	-0175	3175	2572			14373				
	SID	0050	-0171	3233	2607	0019434	0115	14385				
	ObS	0.750	-0171	3238	2507			14385				
	\$10	0075	-0150	32 +2	2651	0015292	0158	14402				
	OHS	0075	-0163	3292	2551			14402				
	STO	0100	-0138	3365	2739	6279736	0189	14427				
	OHS	0100	-013H	3365	2709			14427				
	SID	0125	-011⊲	3387	2725	0003100	0212	14443				
	OHS	0125	-0115	3367	2725			14443				
	sro		-0110	3402	2735	0005971	0231	14453				
	OBS	0150	-0113	3402	2738			14453				
	STO	0200	-0065	3440	2707	000+239	0259					
	065	0200	-0065	3440	2767	0.2220.20		14408				
	510	0250	-0022	3457	2731	0002948	0217	14519				
	08.5	0250	-0022	3459	2781	220262	0.00	14519				
	SID	CUFG	-0003	3407	2746	3002488	0290					
	08\$	0300	-0003	3467	2736			14537				
	068	0356	-0309	3473	27+1			14544	0.3.7		0.3	0.3.3
	983	0364	001	34714	2759			14554	037		063	023

MARKET - BUISE	SHIP	LATITUDE	1 10	LONGITUDE	2 Z	MAPSD SOUAL	**	(GMT)		1.4	CPUISE		ATKIN ATKIN UMBER	DEFIN TO BOTTOM	14871		WAVE DESERVATIONS	WEATHE	CLOUG		NODC STATION
319184	WE.	81190		064390W	-+- +	907		08 20		970	NGS	013		0430	2	01	+ + +	x2	0 9	"	0013
3.0.			•	00.0			DT	T 17 1	WIND	T -	L - 1		tuer *c [	NUMBE	Ţ	1			1 - 1		1 0025
* MIT PHE /	SIGN TIMES O BANKS I I	in out tradem.	(G) 7400 0 (0) 4	aut mamma sen mar	EI BA14 18			TRANS DIE	5910	Ball()sa (mba			ert ∎oit kin	005	SPEC CRSERV						
							11414	1-1	FORCE		1	+		HVIIS			-				
	6	T 1		_			UI	S0 1 -	504	38	5 00	0	225 7	14	1			y-			
	CASI OLDA	• 5T	CAPO TYPE	DEFTH	-	,	c	s .	SIGMA		SPECRIC V		, Drn	50 VE		0, =+	PO 10	STAL P	NO, N	NO <sub>1</sub> N	VELOCITY IN LAN
	**	J ====	SĨ			1 01			1 206	, +			+		3.70		+	40'	MR of f		401
	U 3	_	385	000 'D		-01		3171	255 255		0024	0 > 4	0000		370   370		072			035	061
	0)	•	51			-01		3185	255		0023	475	002		372		012			0,5,5	301
			JBS	001		-01		o186	250		0027		002		372						
			ST			-01		3159	257		0022	459	0.04		373						
	10	1	015	0),	0	-01	7.3	34.0	257	5				14	373						
			ST	003	)	-01	75	3217	254	J	0021	154	0051	3 14	377						
			12.5	003	0	-01	75	3217	257	)				1.4	377						
			SI			-01		3255	252		9015	050	010		385						
			150			-01		3256	404						346						
			ST			-01		1296	265		0014	¥350	014		403						
			THS			- 51		12.0	265						+33						
			51			-01		3355	270		0010	484	018		422						
			- 15 S			-01		3355	270		2.		633		+22						
			51 1185			-51		3377	271		3105	3 + 5	0239		439						
			100 S	ران 11:		-01		3377	- 271 - 274		2.12.		022.	-	439 453						
						-01		34 15	274		3000	3.74	022		453						
			5 f			-01		3436	270		0004	~ L.	025		455						
			+ 5			- 11		: +36	275		3004		0.7		433 486						
			51			-00		3.455	. 77		0935	23.	0272		512						
			- 45	12.5		-0)		3+55	671						512						
			1			- ) )		3405	270		11112	5 5 7	123,		534						
			1.5	U+0		-00		1955	7 5						534						
				150	.,	-())	15	3463	275	7				1.4	550						
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	SHIP	LATITU	1 10	LONGITUDE 1 10		ESDEN UARE	[GMT]	- L10	re as	ORYGA CRUPSI HELINGER	SEATI MAJOR	-	DEFIN TO BOTTOM	1		MAVI SHEVALE DO		CODE	CLOUD			NODC STATION NUMBER
18184	WE	8101	ON	065000W	907	10	08 20	075 1	970	HGS O	14		0365	2	00	o x		Х2	0 9	1 -		0014
			,		'	*DT		VIND	T	- 1	TARM				_	'	1	_	1 - [	1		
MAIN PRESENT		013 FOR STABLE F 0579315475 W		num Herts den eus men	#419 (#15) WA	WATER	FRANS DIE	SPEED COR.	I PAR			WATE \$ 1301	Ces	SATCE OBSERVA								
						DT	SD 22	512	08	9 -011	-0	3 6	14			1						
	DURAN		CAR			-	1	†	- 1	SPECIFIC VO		1		PUTED	_	-	*114					SUMED SON
	B(1984	e top CASI	_	DEPTH IN	.,	1 ℃	\$	SIGMA	-1	ANOMALE	- 1	07H =	YEL		,	PO, P	TIONA	. T	мо, -н T	NO <sub>3</sub> -N	3 O. S	OCIN -
	н.	1 10 10	+					-					, -	SEC.		eg es 1	-9 -		eg or 1	mg (# 1	-	p. 19
	107	_	ST			1168	3159	254		00255	70	0000		367								
	0.7	5	OBS			1168	3159	254		00.151				367		078				029	032	
			089			0168 0168	3160 3160	254 254		00254	88	0025		359								
			SI			175	3161	254		00253	ء ت	0051		369 367								
	30	1	065			1175	3161	254		00255	00	0051		307								
		•	SI			177	3100	254		00249	н Б	0076		369								
			085			177	3166	254		302.,	00	0310		369								
			ST			017→	3199	257		00224	2.0	0123		376								
			UBS	0050	) -0	179	3199	257			-			376								
			5 1	0 0079	- 0	105	3277	263	9	00164	30	0172	14	397								
			085	0079	5 ~ C	1165	3277	203	7					397								
			SI	0 0100	) -0	1249	3350	207	7	00108	54	0236	14	419								
			08.5			1 +>	3350	204	7				14	419								
			ST			107	3401	273		00070	74	0228	14	450								
			06.8			107	3401	273					14	450								
			ST			1373	3425	275		00053	76	0244	14	475								
			OFIS			1070	3425	275					14	475								
			21			1052	3442	270		00041	48	0268	_	494								
			DR S			952	3442	275						494								
			SI			015	3401	278		00028	77	0285		522								
			ORS			015	3+61	278	_					522								
			ST			31)	3462	275		00026	32	0249		533								
			ObS		_	010	3462	273						533								
			OHS			007	3462	275						540								
			0 a S	03 4 6	- 0	300	34622	273	3				14	542		051				076	037	

HUMBER CODE .	1 10	NGITUDE 3	+ -+ +	STATION T	TEAD	OFIGINATOR S CRUISE STATION NUMBER NUMBER		DEP DIE HUTPER THE EP	WEATHER CLOUD STATION NUMBER
31819+ WE 80	39 N 05	712 W	907 07	08 20	155 1970	mGS 015	0430	00 0 x	x1 0 9 0015
		,	DT.		VIND	AIR IEMPIRATURE		SPECIAL	
egn swe was hand into	ALTERNATION OF THE	DPU 871 0 12 13 1 0 2 1 1	WATTE	184N5 DIE	SPEED BARD	METER DET BULB WET BUI	VIS 045	EFVATIONS	
			01		FORCE	1	ILVELS		
6.6 3 3				50 25	510 11	.2 008 -003		,	
Cast mel test	CAPD	DEPTH (m)	r 'c	5	SIGMA F	SPECIFIC VOLUME	PAD COMPUTE SOUND	_ fum im	WEASURED SOUN
	CAST FYPE	Different (am)		,	311. MA 1	ANOMALF + 10"	# 10 , w. 24r	10, 10	TAL P NO, N NO, N 5.0, 5 PH
× 10 +	SID	0010	-0101	3148	2534	0326422	1437	+	gari µgari ⊒gari
165	005	0010	-01±1	3148	4534	3023,62	1437		
	STD	0023	-0170	3:62	2540	0025314	1437		
	UBS	0020	-0170	3163	2540		1437		
	\$10	0030	-0175	3211	2545	0021525	1 + 37	5	
) 71	Ons	103.	- 1175	5211	2505		1437		
	STU	0050	-6173	2255	2613	0017290	1435	+	
	00.5	305)	-0170	7205	2030		1435	2	
	STD	0175	-014	33.7	27.3	. 11 1355	14421	J	
	115	0/175	-6141	3377	2703		14421	)	
	STO	0100	-0108	: '+ ) )	2750	0607177	1444	1	
	UP 5	73 / )	1 2		2700		1444	3	
	115	0105	-000-	3-01	2737		1445		
	J+ 5	0110	- ) ) - :	3 • 12	2753		1445		
	510	0111	- / /1	5 fg 1 fq	2705	30 15450	1447		
	1 #5	21.5	-0071	347 +	2755		1947		
	511	1150	-11064	1977	2757	0110555	1447		
	J+ 3	0137	-005-	4 + 7	2757		14471		
	5.1	02.30	-004	3 * * _	.750	JUU415c	1 449		
	UHS STIL	03.00	-004	3943	_76 =	3 1 3	1449		
		0250	-0342	34.1	2776	2003345	1451.		
	178.5 S.T.U		-1035	4-53	2775		1451.		
	4.5	3300	-0017	3 + 61	2102	0.10こうか?	1452		
	7 15	) 3 ~ <b>4</b>	20.	3431 ,417	2742		1452		
	3.3	33-4	2021	,	273		1455	(1)54	362 029

EN E	\$HIP CODE	EATITUDE 1 10	LONGITUDE	2 mars		STATION T ICANT CHANG DAY IN	, , , ,			IOE 5 STATION NUMBER	DIFIN TO BOTTOM	<u></u>	CHO	WAVE SERVAT		WEATHER COOF	TIPE AM			NODC STATION NUMBER
318184	W.S	80165N	068520h	907	0H (	03 20 4	218 19	70 1	4GS 016	>	0330	2	00	0 X		X1	0 9	1		0016
	1		'	' '	DI	· .	N/MID		A4 11 MP18	Afuer 10 vis	HELINGE P	SHICH								
* 101 501	E-45 E-45	AN THE BASING SINTER	Markett Benjamb Wate Lemne	s sara (sti) est	PARI .	BANS 010	SPREE IN	Personal Pa	DET 8/18	WET BULL KOD	CMS	CRSSETYAT	TOMS							
-					CCA		10401		1-02	202	+ - +			+						
				-	OT	SD 18	S02	112	003	-003  7	13			1					1 44 4 4	UNIO SO
	(a)	ing (a)	ec.				Mark 1		MENC FOLLM	1 340 D7H H	COm/	JP4D	,		NT (IGH)					OCITY IN I
	47340	man (AS) IM	DEFINI		1.0	'	SiGma 1		MOMALE & I	۰′ ۱٫۰			, =, .	10,		MAI F	HG <sub>j</sub> N	NO <sub>3</sub> - N	3 O <sub>1</sub> - 3	ρН
	-		TD 030	2 0	163	21/0	2534		002643	2 0000	143	170		1			-			
	1		TO 000 5 000		156 156	3148 3148	2534	1	302043	2   0000	143			07	4			023	035	1
	21		TD 001		175	3155	2540	- (	0025859	9 0026	-			•	•			•		
		08			175	3155	2540	,	002 000	, 0020	143									
			10 002		178	3168	2551	(	002484	2 0051										
	30	_				3168	2551				143									
	00		IU 003		175	3202	2578		0022214	0075	143	375								
		OH			175	3202	2576				143	375								
		-	10 005		153	3651	2017	(	001847	0119	143	375								
		0.8			153	3251	2617				143	395								
			10 007		134	3315	2007	(	001357	0155	144	17								
		40	5 307	5 -0	134	3315	2569				144	17								
			TD 010	0 - 0	123	1380	2721		000353	1 0183	144	35								
		30	S 010	0 - 0	1.3	3380	2721				144	36								
		S	10 Ula	5 -0	1 11	3333	2720	(	000793.	2 0204										
		บธ	S 012	5 -U	101	5390	2728				144									
			10 015		373	3426	2757	(	000526	5 0220										
		HC			0.7H	3420	2757				144									
			(1)		045	3445	2769		000410	7 0244										
		UB			045	3443	2759				144									
			TL 025		027	3456	2779		300323	1 0262										
		01			027	3456	2779				145									
		Оb			014	3458	2779				145									
			ID 030		007	3460	2781	,	303237	7 0277								03	0.35	
		ОВ	S 032	5 -0	004	34534	2733				14:	940		04	0			062	035	

	1.10 7.751 N	07139 W	260 73	On 22	113 197	O WGS 017	et to fair	0146 2 U	OO OX X	CLOUD	NOOC STATION NUMBER 0017
Gupen, games	presidencia emilia taci	em at	CURCH		FOFCE	50 052 0	32 7	OR GREENWHOM	3		
[C.43]   0.464    0.584	CAP CAP	CHFTIN IM	# °C	, , ,	SIGMA !	SMCMC AUTOM	Ban Din w	CCUMPUTED TO SCHOOL OF THE SET OF	Traces from the control of the contr	* Therity is Therety is T	TWEASURED SOUND VELOCIFY = 10 S O <sub>3</sub> S BH
1,,	1   ST		0237	30 71 30 712	2470 2470	0032541	0000	14544	006	001	029
11	S UB.		0000	3173	2544	00270	0028	14447			
11			0000	31730	2547	2.11.71.2	2050	14449	006	001	039
11	3 06		00 ± 7	3260 32912	2615 2639	0018752	0050	14512	010	001	048
1.4		10 3033	0053	3302	2050	0015427	0067	14497			
	5		- C )=1	3339	2673	0012743	0095	14454	040	029	039
11	\$ (16) S		-00 4	33311 1336	2679 2684	0012175	0127	14453	040	02,	03,
1.1			174	33303	2684	30121.3		14441	044	036	019
	5	TO 0100	-00553	3337	4 b b b	J011 +20	0157	14440			24.
1 1			-003	33+4)	2057	2211	0.1.04	1 -4 -4 -5	049	042	046
11	> 0m		-0105 -0106	1345	2692	0011300	0185	14443 14443	049	050	031
11			-0106	23447	. ,,,,			-	-		

DESCRIPTION OF SECURITY CONTROL OF SECURITY CONTROL OF SECURITY SE	COL	(ATITUDE			(GMT)		OPIGINATOR CPUISE STAT NUMBER NUM	NON I	HIEN OF MOTICE	OBSERVATIONS DIE HOTTPET HA CA	+	HOOC STATION NUMBER 0018
318184	FINE NE	77525N - 11 100 Nicelos (CHTO) 1 AUTO 100 Nicelos	07127 k muu ohuma uhu mu	·nī	SUD N	153 1970	AIR TEMPTRATU	11 °C V15	COSTANTING CASTANTING		x6   5  8	0018
	DUMA!	K No.	DI PTH IN	H 8°C	14	S08 15	SPECIFIC VOLUME ANOMALY - E 10'	35 6   340   01N m 1 10 <sup>3</sup>	COMPUTED SOUND VEIOCITY = SEC		OTAL P HOj N NOj N	THEASURED SOUND  VELOCITY IN INC.
	15	S		0255	3045 30454 3151	2433 2433 2519	0036057	0000	14545 14545 14540	015	000	038
	15 15	3 OB	S 001 TO 002	0209 0101	31507 3260 32983	2519 2614 2547	0019934	0055	14540 14509 14496	002 007	000	020
		S S	TO 003-	0031	3336 3328	2655 2676	0014940 0012950	0072 0130	14485 14457			
	15	S	TD 007	-0046	33276 3333 33333	2676 263. 2631	0012422	0131	14457 14452 14452	036	027	016 057
	15	S	TO 010	0 -0092 0 -0092	3340 33404 3344	2665 2655 2691	0011771	0191	14445 14445 14446	047	042	047
	15.	3 (JB)	TU 015 S TO15	0110 -0110	3347 33466 33503	2593 2693 2697	0011205	0219	14445 14445 14439	052 044	054 046	022 039
	15 15				33303	2041			14437	044	046	034

SHIP CODE WE	7754 N	071		5 sour 10' 7 26 0	et .	GMT	1 10	970		STATION	ю	10 Mari 10 Mari 110M / 1		WAVE DESERVATIONS DISTRICT THE THE TEE	WEATHER COOF	CLOUD TIPE AMT		NOOC STATION NUMBER
etions 17 metra ns assett 8 metra	t nom stop de filling estionals emilie ne	04114L17-04 7-6771AR	ruems werks a	ala (#D) dal	A	TANS DIP	SPEED OF HORCE	BAFOM [mbs		WET BUILER	, C	Sac.	CIAL					
						34	514	14	5 052	034 7	- 0	)9						
DURATE BURATE	CA (A57 TY		DEFTH (m	,	·c	\$	SIGME	ŧ	SPECIFIC YOLU	DYN	- 1	COMPUTED SOUND VELOCITY = SEC	0, -1	tom cm	Stat.	NO <sub>3</sub> = N	NO <sub>1</sub> N	MEASURID SON
	°+ *** S	TO *	0000	02	80	2982	238	0	004115	9 000	0	14547				-		
1.92			0000		9 40	29316	238					14547		800			005	030
		10	0010		20	3109	248		003108	8 003	b	14540						
192		_	0010		20	31046	2+8					14540		0.01			004	048
		TO	0020		)57	3252	201		001455	2 000	1	144 #3						
193			9025		13	33017	265.					14476		020			012	020
		TO	0030		003	3303	265		001469			14472						
100		ID.	3353			3325	207		001318	7 010	6	14459		0.36			02.	042
192		10	0075			33243 3333	267.		0.11.12.	2 013		14459		036			026	042
192			0075			33329	268. 268.		001236	2 013	0	14440		049			044	034
142		TD	0100			3337	265		001168	) 016	až.	14445		047			044	034
192	_		3100		-	33390	264		901100	, 010	0	14445		051			046	034
1		Īυ	0125			3342	267		J01162	9 019	7	14445		0,1			0.0	0,5
		To	015)			3344	269		031135			14444						
193			10150			33445	201	_			~	14444		054			051	019
192			T01 03			33484	20+					14443		354			057	036
193			0185		128							_						

[ see at 4 at ]	SHIP LATITU	n   101	NGITUDE E	MATSOTH!	STATION TO		DEIGHATINE		DIFTH BU	. 41 00	WAVE SERVATIONS	WEATHER	TINSTR		HODE
1000 PT C #UISA	cont	1 10	NGITUDE TEE	SQUARE IN A	GMT <sub>1</sub>  contri∫0at [H	1141	CPUISE STATE		10 Marie /		PICTURE THE IN	CODE	CLOUD		STATION
1 1		1	*			-	1 = 0 0 1	+	0933 2	-+	0 x	X2	0 9	_	0020
313134	WE   772 →	15N   U6	o 3.15 w	r		IND	The timeston	-		- 00		A 4	1011		1 3323
* 201 101	proper filmen ett Hale Blister	m (1211) 1800 443 7	00VENS VES 5818		30	SPEED BAR-14	414	4 vis	OA1	# CIAL					
ab ab- 1	NA CAMBOD DE BETTE DES	F00 101 1/114		COLT4	TRANS DIR	FC4CE [mb	DOT BUILD WET	AUGUS CODE	TLAST CHEST	EVATIONS					
				ОТ	้รบ่วา	\$10 19	9 238 0	2 e ] 7	14						
	Duta to the	1 1		1			SPICERC FORUM	■ &D	COMPUTED SOUND	7	AMBHAT UGH	1			EASURED SOUND
	MINIME THE CAS	1 TYPY	DIPTH (m)	F 'C	\$ .	SIGMA 1	490 WALE   10"	01H #	AFFOCILA	0, -11	PO, P 1			- + Is o.	
	H 10 NO				-				- ¥€	-	148 ct.	40 00 1	10 01 1 W	400	-
		SID	0300	01+2	3013	2412	0038011	0000			223		0	00 05	
	065	082	0000	0162	20128	2412	3033313	0027	14499 14500		012		U	00 050	ь
		STO	0310	0157	1022	242G	0037317	0037	14500						
		OBS	0010	0157		2. 27	0035877	0 374	14432						
		STO	0023	00 7	3733	2434	20339 1	0314	14432						
	205	OHS	0020	- 3023	3039	2442	00351.5	0104	14423						
		SID	0030	-0023	2037	5445	009712	010	14422						
		UES STU	005)	-0025	2057	2459	J033537	0178	14335						
		JH S	0050	-0095	95.	240	000000	01,5							
		STL	0030	-0131	3974	2477	0031740	0250	14380						
		(H.S	0075	-0131	,,,,,		0001	0200							
		51	01.00	-0130	3101	24.45	3033335	0337	93ز+1						
		OBS	0100	-0130											
		STU	0125	120	3123	2513	0025327	0-10	14401						
		UBS	0125	-0129											
		SID	3153	-0116	3145	2530	0020054	0477	14414						
		URS	3151	+0110											
		STU	0200	-0070	5189	2504	0025404	0604	14450						
		045	323)	-3013											
		510	0320	-0015	3222	25 7 5	3323263	0713	14477						
		063	0250	-0015											
		SIO	010)	-00:-	3276	2635	0015072	0005	1-4-34						
		Or S	0300	-0059											
		S <b>I</b> →	0.400	-0101	3364	2707	000-772	0-35	14494						
		CHS.	04.30	-0101							2 . 6		^	.01 03	. 7
		66.5	.)0	-0095	3+245	2704			14520		069		Ų	181 03	۷

929-81-6-80 98-77 (1-05)	SHIP LATITUE	w   10H	NGITUDE 3	MARSORN SQUARE	STATION TO	mt	CRUISE STAT	ijei	DEPTH BAI TO WAPIT	WAYE WEATHE	CLOUD	NOOK STATION
and retired to		1 10	1 10	10" 1"	er neth Car in	110	NUMBER NUM	*	LITTUM / 19	One becalifier was set	STPE AME	NUMBER
318184	wi	N 36	53J h	259 78	00_23_	1970	TMC2 1051		1730 2	00 0 X X5	4 8	0021
• == ===	USA PARTAN PRO ELAPON	L Barrisson was t	DESCRIPTION OF SHIP	AI DT	*S'□ ⊢ *	IND SPEED SEARS A	AIR TEMPLEATUR	H 5	NUMBE SEE	Α.		
	AMERICA CONTROL OF			walte	TRANS DIE	FORLE (Mil)	i Star Bold will	BUILD TON	18 × 115 C4518 + 4	110,045		
							5 1044 0	13 7	12	,		
	(caseemT	7 1		T i	* *	SUS . 21		140	TPUTED T	ANBIENT UCHT		"MERSURID SOUND
	DURATE OF 1 ASS	CARD	DEFIN IM:	f 1	١	SIGNA T	SPEEDL FORUME	DIN	SCUMD VELOCITY	D; m 1 1	an at an at	S O, S I an
	Con .01 m	TYPE		1	-	-		1.10	* * SEC +	Marie Marie	ang or ang or	3 0, 3
		516	0300	0163	2310	2330	0045856	0000	14.56			
	085	06.5	033)	0153	2 +101	2330			14466	007	000	057
		STU	931)	0155	3170	2545	0025361	0035	14520	21.2	0.00	010
	J # 5	()H >	0010	0150	11704	2545			14520	010	000	018
		STI	0020	0010	327.	6.7.36	101710+	0055	14470	2.20	038	022
	055	Or a	3000	- 004	33110	2652			14451	039	038	022
		5.1	000	-0055	2314	2000	0013654	3100	1-447			
		51 1	0121	-011-7	1333	4585	3011 +5+	2077	1+435	352	360	023
	)×5	11-5	0050	-00 2	33331	2501	111116	0127	14433	336	300	023
		5.15	6375	- (/1 :)	2445	2012	0011455	0121	14433	064	086	045
	345	113	007	- 31 /3	33453	2.15	3010752	0154	14433	004	000	3.,
		51	0107	-0110	2322	2570	0010132	7134	14438	J54	079	02b
	185	100	01.00	-0110	31727	26.15	30134-1	01-1	14444	0.74	• • • • • • • • • • • • • • • • • • • •	• • •
		510	ulc:	-0106	34-0	2101	0010175	1207	14451			
		51	01:0	-0103 123	3350 43605	2705	0010113	1201	14451	065	084	048
	) " >	13 <sup>6</sup> ° ₃ 1.1	920)	- 301.7	+370	2710	300-543	0250	1448.			
	16.5	Lift a	15, 35	-0057	33h+2	. 71 U	3007 743	02,00	14462	067	098	033
	J ( )	1	257	- 5 3 14	3315	2123	1125714	0302	14517			
	1.15	) · ;	0.5)	-0109	43 66	21.0			14517	076	1 02	033
	112	STI	1111	73.5	.41)	2745	3301241	0342	14550			
	Jm >	6.5	13 1	1 65	34 391.	2735			:4000	0.74	107	039
	1117	5.10	J4 ),	()1) - ,	34.15	21.5	J0055-1	0438	1454)			
	1 41 -	Dr.S.	)+ / )	0)=+	34274	11.			14573	07+	112	045
		5.1	0500	0.7	541.	67,0	3511731	0457	14537			
		310	0500	))	341,	150	333741.	0563	14124			
	1		3% J	1)	34301	7.11			14524	089	133	046

		SHIP	LATITL	-	IONGIT	UDE =	8	SORN	STATION 1			O#164	NATO#	5	CHEFTH	841		MAYE		1945.78		NODC
	PURM	1000		1 10	TONGI	1 10 3	3 sau		(GMI)			CEUISE NUMBER	STAT		IQ	111	1	SERVATION FIGURE 's	. CODE		4	STATION NUMBER
31/8	9 3 4	w.E	7777		0553	-	259		0 5 23		70	WGS O		4	0512	2	_	0 X	X 2	++	+	0022
ria	104	MC	7732	. 14	0555	0 4	F 24	1 1.	- 1 - 1	vinio T	10	AP IIW			7		00	10 1	^ ~ ~	0 19		0022
• 907	W-94.1		in los stab	का स्थिताल स्थाप		MB SIMBLE BATE	E (ET); dia	*DT	SO DIE		a Pr)as	a ta mi	T	VIS   \$05 \$ 1 20F	OBS (	SPECIA DBSFFYAT						
								DT	50 24	502	20	044	0	29 7	15							
		DURAT	Time	CAR				-	1			SPECIFIC VOI	UME	240	( CAKPU SOUP	wn i		AMBIENT :	1 N 2017			VELCE ID = 1
			Figs CAS	1 IVE	D	êFî∺ (m.)		1 'C	3	SICARA	4	ANOMALT I		9 10 1	VELOC	ity O	-11	Pri P	Tole F	THU, H	ابد رسد	50, 51
		H	10 NO	1	_	0000	-		-		-	22.60		-	=			- ~		and on	** *	
				51		0000		172	2649	2121		00658	07	0000	144			0.16			200	
		121	l	089		0000		172 052	26497	2121		004		0065	144			005			000	025
				S1		0010 0010		052 052	2000	2139	,	00641	40	0005	144	03						
				S 1		0020		0-4	2631	2154		00626	5.1	0123	143	6.7						
		301	1	UBS		0020		044	219 71	C 1 J -	•	00020	-	0123	140	02						
		00.	•	5.1		0110		044	26 +5	2157	,	00613	۹.,	0.10	143							
				uh S		الدوران		0 -	20.5			,,,,,,		3.70		•						
				51		) 11 1	_	114	2728	21	,	10538	u2	10د ن	143	-1						
				- c i		. )=1		114								-						
				5.1		3375		131	2758	2226		00056	01	0453	143	42						
				DHG		0075	- 0	131														
				S 1	ΙΟ	0100	-0	125	2308	2259	7	00025	55	0589	1+3	56						
				JBS	5	0100	- i)	123														
				S 1	0	0125	-0	113	2343	2291		00474	63	U715	1 4 3	58						
				089		0125		115														
				SI		0150		115	2463	2323	3	00453	7 🕶	0336	143	7.8						
				083		0150		110														
				S 1		0200		0 = 5	2 70 1	2350		00402	8 3	1053	144	13						
				043		65.60		053														
				\$ 1		0250		307	3047	2-+-+:	}	003++	25	1239	144	68						
				lib S		0250		007	21.22							٠.						
				SI		0300		051	3127	251	}	10206	1 3	13+7	145	14						
				089		0300		053		2												
				51		04 00	_	045	3246	2636	)	00157	23	1524	1 45	58						
				083		1417		) = 5														
				0.83		3470	_	053	1/1 7	371					17.	3.7		077			112	0.37
				()49	)	0473	Ü	091	34342	2754	,				146	U /		077			112	034

	E 773	82 N	LONGITUDE 10	3 MARSONN 3 SQUARE 10 C	STATION (I (GMT) HONTH DAT [HI U 3 . 23 . 1	1149	CRUISE STATE NUMBER NUMBER	ION •NF	DEPTH BALL TO LAMPI SOFTOM OEP	WAVE CHESTEVATIONS WEAT CO	OF CLOUD STATEON NUMBER
* 9011 2012 21/94 10 00* 05/ 04	i Dimension species Mension de astronom	drina (ggriffon Prijst (nit)	Hayle on the Melti	CC MC4	3 0 MANS DIE	SPITO MARIO	DET BILLS WET	91 °€   vis	HUMBER SPECIAL OBS LEVELS OBSERVATIO		
		CARC IVM	DEFTH IM		\$ .	51G.m.4 . f	PARTMENT F 10,	9 A D 07 N W A 10'	COMPUTED SOUND VELOCITY O;	AMBIENT (ICHT)  Tom con  PO P TOTAL  Mare I Mare I	* MEASURED SOUN  ***********************************
	150	ST			2697	2156	0052356	0000	14476		
	150	065 ST			26959 3 <b>1</b> 20	∠158 2505	0029167	0 045	14475 14453	003	300 032
	150	085			32650	2625	0027107	0,743	14444	049	023 037
		ST			3283	2540	0016309	0003	14439	047	023 031
		51			3313	2555	0013332	JJ83	1-4-30		
	150	065			13334	26m3			14+25	053	J75 J35
		S 1	0 0050	-011-	1329	26-1	0011830	0109	14425		
	150	() H S	3069	-0115	33 - 53	2013			14429	062	J95 027
		5.1	0 3379	-0111	3347	2694	00111+3	0136	1 + + 32		
	150	UE S	30 30	0107	33501	2010			14437		
		S 1			3351	2697	3013931	0155	14440		
		S 1		-0154	3324	2700	3 11 14 35	0192	14445		
	150	(145			33570	2702			14449	074	117 032
		S 1			1359	2105	7د33103	J218	14452		
	150	083	-		33573	2704			14473	072	113 030
		SI			3368	2709	000-7	0604	14483		
	150	UB:			3381H	2713			14512	076	114 045
		SI			3395	2721	0008647	0315	14512		
	150	JH?			33984	2732			14507	054	097 036
	150	0 4 :	027:	- (L)							

SHIP CODE	LATITUDE 1 1 10	LONGITUDE L 10	S MATSON SQUARE 10' 1'	STATION (GMT) MONTH DAT	TIME TEAR	CFUSE NUMBER	STATIC NUMB	)ee	DEPTH EQ BOTTOM	107		MAYE SERVATION MGT/MR TU	CODE				NODE STATION NUMBER
84 48	77+15N	05340 W	254 78	0 5 23	174 197	O WGS	024		0201	2	00	0 x	X 7	6 8			0024
PHO (NO. POP) MORNEY BARRET F	pro made desagnado Esperado e astrodesags demondo fuele	enali seriene res Amer		TIANS DIE	25410	OMITH	BULE WET	¥15	NUMM# OBS LEVELS	SPECIA CHSERVAT				. ,	,	,	
				34	506 2	57 04	5 02	27 6	09								
DUMAT	ION CAR	ю				SPECIFIC	VOLUME	PAD	COM PL SOUT	NO.		AMBIENT LI	GHT				SURED SO
m 1986		OFFIH IS	er + 10	1 5 .	SIGMA E	ANOMAL P	107	1 10 1	VELOC	181		PO, P	FOIAL P	NO <sub>3</sub> - N	HO <sub>3</sub> = H	1.0,-1	
		10 000	0 -0126	2576	2071	0070	1672	0000	143	06						-	
1.74	• UB	5 000	0 -0126	25759	2071				143	36		000			000	028	'
	S	10 001	0 -0050	3245	2610	0019	1.75	0044	144	32							
174	4 UH	5 201	3 -0060	3245 8	2610				144	32		031			022	048	
	S	10 002	0 -0089	3296	2652	0015	212	0062	144	27							
1.74	4 បំ២	2005	-00-4	33143	2 € € 7				1 +4	25		059			072	044	
		10 053			2671	3013		0076	-								
	5	Tu 005	0 -0110	3335	2634	0012	1 43	0102	144	27							
17-	• OH	S 0:05		333 • 6	2584				144	27		056			083	031	
	-	10 937		3344	2571	0011	4-45	J131									
174				23440	26 } <b>L</b>				144			103			056	039	
		19 919		3348	2645	0011	.D 33	0159									
17.				33495					144			092			091	036	
		10 012			2648	0010		0197									
	-	10 015			2701	0010	1537	0213									
174									144			054			074	048	
174					2703				144	57		067			103	050	
1.74	4 UB	5 018	0 -00.0-														

POP-B1 (I B) + SHIP	LATITUDE	LONGIFUDI 5	MAPSOFN 3 SQUARE	STATION TO (GMT)	7540	OBIGINATION CRUISE STATINUMMER NUM		DIFTH BALL IO MAPEL BATTON DEPT OF	OBSETTATIONS	INSTE NODC STATION ON THE CLOUD STATION NUMBER
318184 WE	77331N	055465 W	+ + +	9 h 23 2		+	+	+- +-		x2 7 8 0025
380801 46	,,,,,,,	033,034			ND T	TAIR TEMPERATU		1 1 1	4	
Basis was come from	THE PLANE BY THE	BOARD OFFINE SERVICE		20	SPEED BARIT	with T	VIS	COS SPECIAL		
	ISTRING MAR THE	VM D	- X-9	FRANS DIE	FORCE 1996	PAL BILL INE	r Buck killor	IEVELS OBSERVATIONS		
				36	506 26	9 039 0	28 7	11		
( a s) ( b. a s)	(AE	D8 #714 (m)	1 10	* !	SIGMA T	SPECIFIC FOLUME	740 07N H	COMPUTED SOUND VECOCITY O1 m1	AMBREME SIGNET	F NO, -N NO, -N 5 0, 5- 0
h**	- NO		1	F			+	m sec		:   mar   mar   mar   "-
		10 0000	0190	3210	2557	0023258	0000		J02	002 028
221	. URS		01 ≠6 3045	32096 3211	2557 2576	J022485	0022	14541	002	002 028
221	-		0.043	32109	2310	3022459	0.722	19973	000	003 041
7 2	S 1		0003	3271	2628	3317525	0042	14466	000	009 011
22			-0026	32430	2647	0011323	00.2	14456	011	016 031
	51		-00%	1302	2655	3014440	005+			
	5	(U 1) (V	-00/1	4333	2574	3312578	1000	14444		
2 1	1093	5 3030	-00-1	33 (04	247+			14449	031	353 031
	*s 1	TU J075	-0057	1344	2591	0011 .40	0116	14443		
.1 2	, OB.	3 0075	-6017	13-4-4	2041			14443	030	059 033
? 2	1194.5	5 0044	-0010	33445	2645			: 4449	047	090 048
	5.1	(O )1(J)	- ) ) +	3350	1615	0011037	0145	1 4 4 4 7		
	51	f) 0125	-00: )	1354	.69.	0010753	0172	14456		
3.4	(8)	5 )147	-0072	43537	2702			4455	043	068 037
	5.1	Ti Jubia	- +572	1357	27.12	25,10912	J198	14465		
221			- 1145	33541	2707			14437	035	066 037
	5	TO 0203	- U 3.* *	1369	271+	0009723	0244	14455		
25			-11-6	13021	2718			14515	065	105 036
	5.1		-0305	32 114	2713	0004928	05+2	14517		
'2			0.365	1-1)+	7131			1.500	034	075 037
22	51 1185		006 H	4411	1731	)007126	0335	14561	046	085 016

CPUISE HUMBER	CODE	LATITUDE 1 10	LONG	TUDE Z		n	STATION (GMI ONTH DAT	Hell Tip	TAR	NUMBER .	STATE NUM	O#4 H #	DEPTH 10 BOTTOM	844 14871 1117	1	WAVE ISEPVATION HOTHE!	45 Mai 441	400) 400)	CLOUD TIPE AM		51	ADDC ATION UMBLE
8184	m E	7736214	000	142 m	259	76	08 24	004 1	970	WGS 02	0	- (	0512	2	0.0	0 X		X 2	7 8		0.	026
	,				·	DT	*S"。	WIND	T	AIR TEMPL			NUMB .	A SPECIE	A							
		17 196 6106-06 111119: T 41110-125 SWEET 181		EM S. 75 SELEC. BRACE	(\$1) del	WATER	TEANS D	2P1E0	BARCIMA Imbe	1		SULE CODE	D <b>65</b>	SPECE OBSERVA								
					-	COLO	1-1	FOECE	-				II ALC									
							0	6 506	26	9 039	10	28 7	13									
	DURAT	rimit Ca	PO .							SPECIFIC VOLU	-	PAD	COMPL	ND I		AMBIENT Iom is	NC#4				* MEASURE	
		gings CAST TV	1	DEPTH IM	1	*<	3 .	SIGMA		ANOMALT E	10'	D4M T	VF100		7 -1 1	10, 1			но, - н	HOS N S	0, 5	,н
		10 NO	TO	0000	- ñ1	н н	3186	254	3	002498	1	0000	145	+ -		100 00	1	OF 1	ug of it		400	
	1004			0000		88	3186			332 170	•	0003	145				1					
	30		TD.	0010		49	3199	256		002374	7	0024	145									
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			TO	0020	01	05	3247	260	3	001983	1	0046	145	09								
	004	4 118	S	0025	UU	231	3266	7 262	1				145	0.2								
		5	TD	0030	uu	47	3281	203	4	001695	5	0054	144	87								
		5	10	2050	-00	5.2	3322	267	2	001335	7	0094	144	52								
	004	• OB	S	0050	-00	52	3322	0 267	2				144	52								
		5	T O	0075	- 00		33 - 1	268	5	001174	7	0126	144	43								
	))4			0075	-00	67	3341	1 263	o				144	43								
		_	(1	0100	-00		3340	204		001135	<del>j</del>	0155	144									
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			10	0125	-00		3354	269		J01078	-	0182	144									
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		-		0200	-00		3368	27)		000978	8	0259	1 4 4									
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		_		0250	0.0		3307	272		000004	4	0305	145									
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	201		10	0300	00		3415	274		000691	3	0344	145									
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SFD   0000   0000   3068   2465   0033013   0000   14433   14443   14442   14442   14442   14442   14442   14442   14442   14442   14442   14442   14442   14443   14444   14444   14442   14444   1	SHIP LATITUD	1 10	1 10 8 8	+	(GMT)	ME 774	+ +-			2	- + - +		wearne cope X2	CLOUD 1194 JAH	STA	ODC ATION JMBI F
STD   ODE   ODE	ysum francis ise braeen mit ausbe et kistenut en	L State Transport as a 7 Marie Company at a 2000 as a 1	OPUPMS WINE SELE	WATER	TPANS DIE	SPEED BARON	METER   DRT BULE   WE	r suis kobi	OBS OF		NS.	,				
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047	047	088	0000	2003	30681	2465			1443	3					Ţ	
STO   0030   -0004   3284   2635   0010463   0072   14466     STO   0050   -0060   3317   2658   0013681   0102   14448     047   OBS   0050   -0060   33173   2658   0013681   0102   14448     STO   0075   -0044   33364   2664   0012120   0134   14444     047   OBS   0075   -0084   33364   2664   14444     STO   0100   -0062   3348   2693   0011251   0163   14450     OBS   0100   -0062   33487   2638   14450     OBS   0100   -0062   33477   2638   14450     STO   0150   -0065   3354   2638   0011380   0191   14459     STO   0150   -0065   3354   2638   0013812   0219   14468     OBS   STO   0064   33564   2707   0007554   0271   14468     OBS   STO   0064   33667   2707   14485     OBS   STO   0065   -0016   3378   2715   0007206   0318   14511		OBS STD	0010 0020	0127 0047	31489 3240	2523			1450 1448	12						
047	047	SIO	0030	-000-	3284	2033		–	1446	6						
STU   U103   -0082   3348   2693   0011251   0163   14450   14460   14450   14460   14450   14460   14450   14460   14450   14460	047	OBS	0050	-0060	33173	2658			1444	8						
SIO   0125   -0073   3350   2645   0011080   0191   14459		510	0103	-00 H2	3348	2693	0011251	0103	1445	0						
347 UHS 13152 - U004 33544 2698 14468 5T	947	SID	0125	-0073	3350	2645			1445	9						
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SHIP LATIE	1 10 1C	NGITUDE T		STATION T (GMT) ONTH DAT [H	1848 4 0-0	CPUSA HUMBER	STATICH HUMBE		10 MAPU DOTTOM	' [	WAV SERVA HGT/M		WEATHE CODE	CLOUD		NODC STATION NUMBER
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nies nemanii ist esa Liesasse en albendi	n igribacaci na igribacaci	ORMENIO VIRINI RETE		S'o	SPTED	rometenii	PER 4 TOPE C	ALP	Des	CIAL						
			-	07	506 2	00 032	018	7	09							
	CAPD (14P)	OPPN IM	1 'C	3	SIGMA T	SPECIFIC VO	, D	101	COMPUTED SOUND PEROCITY PLOCITY	0, -1 :			id Iodai r ina eri	NO <sub>2</sub> N	NO <sub>3</sub> · N	OCITY -
10 10	510	0000	0177	3170	2537	00261	69 TO.	000	14527				1			
075	UBS	0000	0177	31696	2537				14527			'				1
	STO	0310	0147	3204	2567	00233	37 00	)24	14520							
375	OHS	0010	0147	32044	2567				14520							
	5 T1)	0020	002=	3256	2614	00137	do 0.	)40	14475							
375	OPS	0025	- Ji) 1 4	467.3	2502				14459							
	510	-3030	-0020	3262	2638	90165		063	14458							
	510	7727	-0343	2400	2660	00144	01 0	194	1 4455							
J75	U13 5	0050	-0043	3303)	2660				14-55							
	SIJ	00.75	-0065	3129	2677	00127	83 0	123	1-451							
)75	SHC	0075	-0015	:3287	2677				14451							
	51)	3103	-00-7	2342	2659	00116	32 0.	154	14445							
J75	UdS	0100	-0089	33417	2533	33110		7	14445							
	510	21.25	-139,	3347	2675	00110		187	14451							
3.76	510	0150	-00-2	33568	27J1 27J1	0015	11 0.	214	14455							
)75 )75	0.4 S 0.4 S	T0151	-0342 -0377	33539	2701				14405							

100 0 0 M	SHIP	LATITUDE		ONGHUDE	S MARSONN SQUARE	STATION T	IME TEA	OBIGINATE N	IS I	DEPTH BAZ	OBSERVATIONS WEA		NODC STATION
MINNE	CO01	1 11		10	10	MINNEN DAT	-		- +-		Dis mut Ms ya tai	TOPE LAWS	NUMBER
313184	wE	7723 N	0	0032 m	25 + 76	08 24 0	133 72	70 mGS 029		0338 2	00 0 X X	1 3 6	3029
•				LI ORUPES AFIA SAIS	'*DT	'S'.	INU	TAIR TEMPTERTO	m *C VIS	NUMBE SHOW			
W 40- 0	AMES S	FAIRNEY PRINT		4	WATE	PANS DIE	OF I	two test Date gring ma.		CAS CASERVATION	45		
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	fr 431_	Gest 1		7	T 1	+ ~ ~ .		200 032	', ° . ' .	L i i i	AMBIENT UGHT		MASURID SOUND
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	-	T 447	TV PV	D4****			2042	ANOMALT FID	1 10	eliocity Or s	91), 9 (13/4) org.or (41/4)	HO <sub>3</sub> N HO <sub>3</sub> N	2 O1 - 2- PH
	+-	4 ***	STD	. 0000	0137	3132	2549	0025003	* 0000	14511	+ + + + + + + + + + + + + + + + + + + +		
	0 +	3 (ii	ьS	0000	0137	31317	2549			14511	300	000	000
			SIU	0010	0123	3224	2584	0021671	0023	14512			
	) G :		55	0010	9123	32244	2504			14512	007	005	000
			SIO		0113	3241	52.39	0020143	0044	14514			
	3.13		> 5	-)	0104	32500	2000			14>11	005	011	024
			ST	1)	0 70 %	325.	2617	1110442	0063	-			
			2 7 2	0050	-00355	3305	21.57	0014700	00+6	-			
	13.		115	3353	-0),0	13351	2057			1 4 4 5 6	025	078	011
			5 E.,		-0.051	3322	2573	0013337	0131	1 +457			
	0.4		5 T.	0075	-0051	53221	2672		21. 1	1++57	030	102	013
	U 4		5 1 1 1 15 5	01 00 10 10	-0/) 45	3336	7584	0012105	0163	-	2.2.2	110	22.
	0 9		s Tu		-111) -4	33354 7،1ر	2600	0011226	0192	14442	332	118	026
			510		- 00 -1	457	27.11	0011,25	0219	14456			
	0.73		5 F.	0152	-00-1	2357.	2702	3013475	0214	14456	0.41	165	0.2.2
	37.		s fo		-0050	3 2 7 2	2712	3004444	0269	14485	041	100	922
	0.		ti ə	02'02	-004	33724	. 71.	000	0207	14446	056	193	024
					-001+	4340	.717	0001005	0:16	1.509			
	) 7		٠.,	J2:3	- 7/ 1	33005	2717			14510	038	153	020
			STU		-0006	3354	. 71 9	0004770	0360			• • •	
	) 4	3 (3)	r 5	10362	-0)05	33443	2720			14528	042	1.73	034
	) + :	3	815	1124	-15								

CPUISE CODE ,	Titube 1 10	LONGITUDE	B MARSON	STATION TO (GMT)	TAN TIO		TION MB(II	HT430	WAVE CHESEPVATIONS WEA	THER CLOUD	NODC STATION STAMUN
3184 HE 77	188N	066260m	254 76	08 24 1	11 1970	HGS 030		0329 2 (	00 0 x x	1 6 2	0030
OT STREET START, TO START TO STREET, TO STREET, SAME START S	andree (1991)	स्थार वक्ष्यालक अक्षम व लाख	COLOR MARIE COLOR	TRANS DIA	SPIED BARON ON (mb) FORCE	DET BILL WE	1 415	NUMBER SPECIAL COS COSSEDVATION 11	5		
	CARD TYPE NO	D(FTH (m)	1 *c		SIGMA E	SPECIFIC VOLUME	DTN m	COMPUTED SOUND VEIOCITY = SEC	AMBIENT HUMT	P NO <sub>3</sub> N NO <sub>3</sub> H	MEASURED SOU VESCRITE - S
	ST			3211	2574	0022651	0000	14505			
111	08 S	0000	0114	32108	2574	2021052	0.122	14505	001	005	013
111	08.5	0010 0010	0104 0104	322 <b>1</b> 32206	2582 2582	0021852	0022	14503 14503	0.20	221	
***	ST		9076	3238	2590	JU2339J	2043	14494	000	004	020
111	065	0025	0051	32464	2605	3063373	,,,,	14490	006	011	011
	STI	0030	0043	3259	2610	3318520	0362	14484	000	011	011
	5.11	0050	-0017	3277	2650	0015378	0396	14465			
111	08.5	0050	+0017	32374	2650			14465	014	043	012
	5.10		-0063	3320	2015	0013001	0132	14452			
111	OP\$	0075	-0043	33254	2075			14452	021	098	014
111	51u 085	0100	-0121	3346	2693	0011248	0162	14432			
111	STO		-0121 -0103	33450 3354	2643 4699	0010693	J190	14432	029	137	014
	STu		-0103	3351	2704	0010097	0216	14440			
111	Dr S	0150	-00%	33614	2704	0010101	0210	14461	0.38	175	017
	STO		-0032	3376	2714	0009252	5204	14494	0 30	117	017
111	UFS	1.2.1	-0031	33704	2715			14495	019	108	020
	SITO		-0013	3240	2717	0007007	0310	14512		•	
111	ORS	0251	-0013	33835	2717			14512	033	162	017
	5.10		-0659	3362	2710	<b>3</b> 008855	0355	14522			
111	DRS	10310	-0004	33823	2718			14524	037	154	017
111	ORZ	0312	-0009								

CODE CODE	716 N J6	PNGITUDE S	25 + 76	*S "	TEA.P	AIR TEMPERATU	HE C VIS	8:)TOM   687 DIE 0229 2 00 NUMBER SPECIAL	Het He Les He	TEATING COOK COOK COOK COOK COOK COOK COOK COO
1127			ECH CO	0.3	S03 25	1	15 7	09		
CAST COMP DARKE OF MILES COMP MILES COMP	CARD CARD TAST DVRT	DEFTH (M	1.0	3 .	SIGMA T	SAICANC AUGUME	ZAD DIN W	T COMPUTED T SOUND VELOCITY O <sub>2</sub> m.1	POA P HATA	and the second of the second o
	STO	0000	0120	3213	2575	0022550	0000	_14>08		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
139	OBS	0000	0123	32125	2575			14508	003	J05 012
139	5 <b>T</b> U 085	0010	0113	3213	2576	0022450	0022	14506	0.05	105 020
134	510	0010 <b>3</b> 020	0113	32 <b>1</b> 34 3222	2576 2583	3021741	0044	1450a 14503	005	005 030
139	065	0020	0011	3222	2589	0021741	0044	14503	003	J06 013
1 - '	510	0020	0047	3241	2600	3020125	0065	14493	003	000 013
	STO	0050	-0000	3240	2640	JU16311	0102	14459		
139	Oe S	0050	-0005	3285 8	2540	0010711	0.72	14409	011	040 015
	510	7775	- 00 -+	33±1	2641	0012450	0137	14437	٠	3.0
1 4 /	JBS	0075	-00%	33314	2601			14437	023	122 019
	51)	9100	-0110	3550	2696	0010953	0167	14-38		
139	118.5	0101	-6113	32576	2040			14438	026	130 019
	5.11	0125	-0.0==	1557	2705	JU1135+	01 +3	14455		
	5.10	J1 5 J	-0055	3300	.733	0001701	0219	14459		
139	C # 2	10151	- ))~-	3636	27 15			14470	078	269 028
	511	0200	-70.5	2373	2716	0007-443	0207	14472		
13→	(185	10203	-000	12734	2712			1-4-42	057	263 028
139	36.5	02.12	-0002							

Table II.—Observed and interpolated oceanographic data from stations occupied by USCGC WESTWIND, 3-9 Sepember 1970, prepared from NODC Listing No. 31-1705.

SHIP LATITU	1 10	GITUDE 3	MARSOIH TOUAR	STATION THE	TEAR	OBIGINATOR CRUISI STATI	ОН	10 10 10 10	1100 1100 1100 1100		WAYE SERVATIONS HOTME TUI MI	WEAT HE	CLOUD TYPE AME	NODC STATIO NUMBE
AE 7826	2N 07	300 H	260 63	09 03 1	26 1970	KBS 301	i	0284	1	00	0 X	X1	4 3	000
OCIOC TIONALII (BE BIAN OCI GAMBER DI SITTEMI	es listifarenti Para en artist	appeleren in der Bereit in	*DT	TEAMS DIE	SMED BARO OF INC	DET BIND WET	BULL KODE		SPECIA OBSERVAT					
				0.7	507 12	58 1-015 1-0	21 ] 7	09						
DUBATION  BYMBUS THE CAT		DIPTH IM	3 °C	\$ .	S/Gata - F	SPECIFIC VOLUME	9 & D D 9 N M B 1 D 1	AITO PO	NITE O	-1 )	FO <sub>4</sub> = F TO	I	HO, -N   HO,	MASUNO SO VILOCITY =:
- "	srot	0000	-0136	3144	2530	0020777	0000	14	380					
126	OHS	0000	-01:6	31441	_530	· .	,		3 30					,
	STD	0010	-0131	3151	2500	0026259	0026		3 85					
126	UBS	JU10	-0131	31509	2536			_	345					
	SIU	0020	-0137	3152	2537	0026123	0052		384					
126	08.5	0025	-0137	31547	2539			-	385					
	STO	0000	-0124	3155	2537	0025875	0078	_	387					
	510	0053	- 1114	3143	25>1	1023794	0129		404					
125	002	0050	-0114	41 130	2501			-	404					
	STO	))75	-0373	3276	2035	0010303	0177		442					
126	CAU	.1.175	-0070	12.75 5	2635				442					
	S10	0100	-0092	3313	2656	J013816	0217		441					
126	บยร	0:00	-00-2	33130	2000		0.175	_	441					
	\$10	0125	-01 JH	3333	2047	7711025	0249		445					
	STU	0150	-011+	3357	_7.12	0010333	0211		445					
125	UB S	10151	-011-	>>57€	2733	))))1453	J 526		453					
	210	0200	-00. H	1370	2712	110 -415	J 32 c		400					
125	085	10202	-00-27	33703	2723	1))3051	0372		46)					
. 27	510	05 - 0	-00m2 -0077	1341 23430	2723	3373051	03/2	-	405 4d5					
126	UnS	10265	-0077	22710	- 1 - 4			1 4						

200 01 0 00 000 17 (27/05)	SHIF	EATITUDE:	10	ONGITUDE 1 10	8 2	MARSORN SQUARE	STATION (GMT)		**	CBUISE	INATI HI STATI NUM	ОН	DEPTH FO BOTTOM	142 140 111	OBS	WAVE EBVATIONS HOI ME [41:	WEATHS CODE		1	NUM	ЮN
311705	WE	7928	N a	73275m	2	60 =1	09 03		970	KUS (	300	1	0476	1	00	0 x	×1	4 3		000	)2
* 801 241	ing nan	ngra (galatika) aski an astroniati anali	isterbasion de de rabit arres	r orusvis uski u	8479 (875)	*DT	TELMS DO	OF POPUL	Baltina (mbs)	(*)     		BULB E 101	NUMBE OBS STATES	24110A							
	F(ast	Total T	_	_	-		10	\$05	12.	0 00	10	Tr It	1000	ulen T	1	AMBIENT HG	HT.		-	"MEASURED S	SOUND
	DL/R	STICH AST	CARD FIFE	DIPTH (4	**1	1 '6	5 .	SIGM A	,	SPECIFIC V		2.40 07M w 4.10	MON.	CITY C	. =1 1		TOTAL P	HO <sub>3</sub> N	HO <sub>5</sub> H	VEIOLITY	- 14-
	-		SED	000	)	-0141	1149	253	5	0025	557	0000	143	78	1			* - 7	7		
	1 4	4	ORS	000	J	-0141	31494	253	5				1 + 3	78							
			SID	001	U	-0139	3152	253	7	0026	87	0026									
	1.4	14	065	001		-0133	31516						143								
			SID	002		-0128	3157	254		90520	143	0052									
	14	174	0 n 2	2005		-0124	11037						143								
			210			-01/2	3167	254		00350		0077	_								
			STU	005		-0115	135	263		0023	116	0126									
	1.4	1 4	UAS	002		- 1115	31 853				. 1		144								
			J.L.	007		-0104	3235	264		0016	J1 4	0175									
	14	14	UHS	337		-0104	32947			11.2	1. 2	0211	1 44 44								
	14		S.Fiii Um S	010		-0106	33320	258 1 268		2012	יינינ	JZII	144								
	1	1 14	5.10			-0105	3353	263		2012	4 7 m	0240									
			STo	15		-0103	3363	27)		333,		0256									
	14	. 4	185	015		-0107	33617				-	, , , ,	1 4 4								
	1		ر ا د	ا ہاں		-0044	5375	271		1111	103	0314	-								
	14	. 4	1.85	020		-D0+H	237.4				-		144								
			SIL			-0001	3347	2.12		0005	) + 3	0357	144	+1							
	14		P 5	025		-006.1	3384						144	+1							
				030		-0051	3327	_ 7.4	2	0007	140	0370	145	05							
	1 4	4 4	Jie 5	1135	1	-0051	1367	: 213	۷				145	05							
			SIJ	(14-1)	3	-0045	5 4 1 7	2.74	5	JUJU	162	0464	145	27							
	1 4	4 4	045	(/4-()	2	$=\bigcup_{i\in I} f_i(x_i) \in I_{i+1}$	1.15	1 274	H				145	27							
	1 4	4 4	1 >	T (4)	3	-)' 46	14215	5 275	1				145	38							

-	SHIP		Dŧ	10	NGITU	DE	96131 9642100	14A E	SDEN	STATE	ON (GMT)	lan?	TE AR	COUNT	-	STATION		DEPTH	BAJ MBPLE			WAVE ERVATION	5	WEATHER	CLOU	1	NODC STATION
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CEUISE NUMBER	SHIP CODE		10	LONGITUDE + 10		PSDEM UARE	STATION (GMT)	TIME	7 E A B	CRUISE HUMBER		TOR S STATION NUMBER		DEPTH TO BOTTOM	111 111		WAVE BSEPVATION HIGE MR TU	3	CODE	CLOUD			NODC STATION NUMBER
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-		an see makes Sasteman ee	LIETTE DOI:	IAUT DESEMB VERS MAR	8678 (B75) MSI	DT	TEANS ON	WIND SPEED OF FORCE	[ Mbs	4114	Ţ	WEE BULE	412	OBS LEVELS	SPECIA COSSERVAT								
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SHIP LATITUE	1 10	LONGITUDE	2 3	ABSOIN GUARI	STATION (GMT)		41	CBUISI HUMBI B		F S HON will F	10 10 10 10		/ L		WAVI SHRVA HOUPH		WEATH COD		10		NODC STATION NUMBE
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SHIP CODE	LATITUDE 1 10	1046HUDE   2   2   3   3   3   3   3   3   3   3	10' 1' 250 84	STATION TIME (GMT)	71 A P	CRUISE STATE NUMBER NUMBER NUMBER	: Ì.	POPTIN BAN CONTROL OF DIE	
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1000 RT 0 00 1000 RT CPUISE 1000 RUMBER		LATITUE	1 10	LONGITUDE E	S MARSONN SQUARE 10' F	STATION (GANT		_	STATE NU		DEPTH fo b-iffcom	1101	WAVE LIBSEPVATIONS DIR. PHOTERS VA	WEATHER	CLOUD TER AH	PROOF STATION NUMBER
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9 part 5700	DE EVEL TABLE	OT FOR BLASHOOD FASTERNAS OF	1514 (Penn) 101 (101 )	MALES DESIGNED SERVICES DE	***	T S'D	FO CI	ARCHITER TER	BUIL WE	#1 17   vis	OBS LEVELS	SPECIAL DISERVATION	NS			
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	SHIP :004	LATITUDE	10	LONGITUDE	11.2	10'		STATIC (C	SMT		***	CEUISI		TOP 5 STATION NUMBER		DEFTH 10 BOTTOM	14073		0056	MAYE BYATION GEPRE II	• >	CODE	CLOUD			NODC STATION NUMBER
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	CASI	und		T					-			1000	C YOU		140		UND		-	AMBR NT						SUPER SOL
	0U8A140	+	(APD	DE FTH	(41)		1 °C	5		SIGMA	-1		17 # 1		07 M M	VIII	CITY C	0, -	1 1 +	PO, P		AL P	NO <sub>1</sub> - N	HO <sub>3</sub> N		
	m / Marrie		EVPE											-			SEC		-	إضها		1 00 1		-9 -0 1	401	-
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	0.75		08.5		U S	- (	1043	34	050	273	3 3					14	511									
			ST				044	34	19	274	9	00	)5 H 7	13	1449	14	528									
	)75	5	085	Ü4	12			3 🕶	195																	
	075		OBS	104		- (	045	3-	209	2.75	1					14	537									

SHIP LATE	tubt to	NGITUDE 3	MAPSOEN SQUAPE 10" 1" M	STATION EIA (GMT)	14.55	OBIGINATOR S CRUISE STATIC NUMBER NUMB	**	DEPTH SAIN SAPE SET	OBSE	MAVE EVATIONS GIERE THE HE	WEATHE	CLOUD	NODC STATION NUMBER
WE 782	192N T 07	410 m	260 E4	09 04 0	96 1970	KBS 010	Ĭ	0503 1	00	0 X	X1	4 4	0010
SUBS TRANSPORT FOR HE MIS AMBRET BY INTERNET		seuma una sere :	*DT	S D WI	SPEED BARCH OF Imbi	DEV BIND WET	BULB E DO	CEVELS CHESTRYA				,	
				10	\$15   13	7 [-033 ]-0	•3 7	10	-				
	CARD AST EVER	DEPTH (m)	1 *C	s	SIGMA I	SPECIFIC VOLUME	9 4 D DTM 4 1 10 T	COMPUTED SOUND VIIOCHT	, -11		iai T	NO <sub>2</sub> N NO <sub>3</sub>	"MEASURED SOUND " VELOCITY IN IN- N S Oy S pH
-	SID	0000	-01e3	3141	2529	0026458	0000	14367	1	1			
076	08.5	0000	-0163	31411	2529	1		14367	,				
	S <b>T</b> O	0010	-0165	3141	2528	0025955	002	7 14367					
196	ORS	0010	-0165	31478	2528			14307					
	STO	0020	-0158	3155	2539	0025413	005						
096	OHS	0025	-0156	31620	2545			14377					
	510	9933	-0156	4164	2550	3024352	007						
	STU	0050	-0157	1200	25H1	0021944	012						
3+6	985	0050	-0157	32058	2501			14387					
	STO	00.75	-0107	3282	2041	0015217	017						
036	OBS	00.75	-0107	32314	2641			14425					
	SIU	0100	-0111	5343	2631	3011+95	050						
095	055	0100	-0111	33431	2011			14436					
	510	0125	-0105	3360	2704	0010515	023						
	510	0150	-7074	3373	2714	0004275	025						
395	UHS	0150	-0000	337?7	2714			14457					
	210	7500	-0073	3344	2722	0008472	030						
0 +6	1385	0201	-0073	33843	2723			14476					
	STO	752)	-0000	3313	2733	0007438	034						
7+5	08.5	24.5.1	-0050	43734	2733			14493					
	510	0300	0047	(41)	2730	0007072	037						
)45	055	10303	U) 5	3410+	2738			14555					

MAN COUL	Su CC	xxt	ATITUC	1 10	LOP	GITUO	10	5	MARSE SQUA	-	STATI	Cant.			149	CBA MAII	use T		NOM MARI		DEPTH TO BOTTOM	<u></u>		OBSER	AVE VATION		WEATHE	CI	OUD AMT			NODC STATION NUMBER
31170	05 H	E   7	832	N	07	+24	le l	2	260	04	04	04	151	1	970	K	85 (	011		10	3329	1	0	0 0	X		X1	0	5		-	0011
*****	PROPERTY BA	Name of all	ing n	1131 704 Bay 1101	# 4(1 ) ##(#	en tare	Maria	474 (9T)	- 1	DT ###	5	0.5		2	13	., "		+	er *C   r surs k c	ms .	CRES (EMILS)	3/7/CI #3/8/VA										
		asiine tadaa162=	CASE	CAL		D4 F1	H (m)		1	٠,	3		-	Cana	,		CPK VI		3 a 07%	-	COMPU SOUN VEIOC	TV C	o, -	٠,	NBIFNT I	′ ∏16	TAL P	NO <sub>2</sub>	N N	iO <sub>5</sub> N		OCITY - IN
		151	•	S	TD		000		-01 -01			57 570		54		00	25	733	000	0	1436					1			†			
		151		ов \$	TO S		010		-01 -01			56 56 2		54		00	0257	775	002	2.5	143											
		151			Tυ	00	)20 )25		-01 -01	63	31	59 635	2	54	3	00	255	550	005	1	143 143	7.2										
		121		S	I U	00	30		-01	59	31	30	2	50	ь		0231		007		143	31										
		151		ОН		00	)5) )5)		-01 -01	39	3.2	75 749	- 2	63	O		0166		011		1440	15										
		151		S (80	ED S		)75 )75		-01			10 104		60		00	013	162	015	4	144											

CODE	LATITUDE 1 10	LONGITUDE 1 10	8 mars	e et	STATION IGMT		TIAR	CRUISE NUMBER	STATION S STATION NUMBER		DEPTH TO BUTTOM	SAMPI D P		VAV AVBBZB F[IDH]		WEATHI CODE		1	NODE STATIKH NUMBE
WE	7836 N	074415W	260	84	09 04	164	1970	KES O	12	Ĭ	0210	1	00	0	x	×1	0 5	,	0012
, 100 11001211 10001111111111111111111111	। १९४१ का अर्थन्यकः विकास	PI 4617 - 8056 PPI 0 - 56 SEE APPI 66	18414 (\$P\$) and	DT	S'D	WIND SMIO OF MOCH	BARON (mbr	AETS R	B WEE	*c   vis	OBS OBS	SPIC							
					0	5 512	13	3 -01B	-02	0 7	Jo								
DURATED BUSINESS	H CAM	DEFTH IN	n) f	٠,	٠.	\$100	. 1	SPICEIC VO		A AD OTH M E IO	CITIMAN SOC VEIO	JMD JC1TY	0, ===			olia +	NG, N	No. of No. 1	MIASURIC SUI VILOLITI MI SI OLI SI IN
	51	0, 000	0 -01	16.6	3153	45	36	30263	0)	0000	14:	607 T		+ "	+	-		+	
164	DBS	000	0 -01	66	2152	7 25	3.8				1 + 3								
	ST	0 001	0 -01	66	3156	250	+1	00257	67	0025	143	309							
1 - 4	OHS		0 -01	lec	3165	1 254	1				14	608							
	5.1	0.02	0 -01	54	1172	25.	) *q	00245	ng tu	0051	143	7.7							
164	UP S	302	J -01	5.5	41 41.	L 6.	i i				1 +3	00							
	5.1	0.03	J -01	53	31 43	25	7 0	00229	41	0074	143	334							
	ST	0000	0 -01	44.13	2634	201	13	00177	71	0117	1 - 3	3 +7							
164	L, B ≥	005	J1	4 1	3234	1 20	13				143	197							
	5.1			30	3. 70	L. E.	12	00170	61 7	0153	1 44	10							
164	11 R 2			.10	32591	5 26	46				1 44	10							
	5.1				3330	25	, iq	0.121	F 4	J230	1 44	, 25							
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	2.1			187	2 4 75	< 71		JU1-7	94	n 252	146	5 1							
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164	O± 5	01	J -∂J	7 -	1325	1 27.	6-				1 44.14	77.							

METER CRUISS	5HIP COOL	LATITUDE 1 TO		ONGITUDE 1 10	2 2 2 E	SQUART 10' 1' W	STATION (GMT	P# 1 10	1147	CPUISE MUMBER	STATI NUM	ON H I	POTTCH MOTTCH	110	Dog	PCILMS   At 18 25 BANTIONS MYAG	-	TYPE AMI	NODC STATION NUMBER
311705	nas tieta	7823 N	131.00 131.00 10	7336 N Ir seums unu u	\$4/4 1	n d	*S"0	WIND		A/8 7	MPT BATUE		OZ74	SPECIAL CONSTRACT		0 x	×1	3 5	0013
						3.25	0			36 -01	7 -0	25 7	10						
	D-441	1 a C457 1	APD YM	Diate le		, , ,	٠.	\$4G	<b>.</b>	SPEC PIC		#40 01H M # 10 <sup>3</sup>	VE LO	OH)				NO <sub>1</sub> - N	
	F	10 100	STO	0000	Ü	-0143	3139	1 25	26	0027	185	0000	143	370			+		
	20.	2 (1)	. 5	200	)	-0143	3130	6 2	050				143	376		1			1
			STU	901.	)	-0143	3133	2.5	20	0027	184	0027	143	378					
	20.	2 ()1	15	001	Ü	-0147	313n	5 2:	26				14	3 <b>7</b> 8					
			STO	002	J	-0139	3140	2 5	27	0027	084	0054	14	381					
	20.	? 0	1 S	002	5	-0135	3147	2 C	3.3				14	805					
			510	0)3	J	-01.2	31.71	10	200	3024	717	U030	14:	395					
			STO	335	J	-0365	3746	- 0	3	3014	1859	012:	144	25					
	20.	2 (1)	15	035	J	-0085	3245	3 21	13				14.	-25					
			51)	0079	5	-0052	3303	24	000	0014	543	0165	1 4	•35					
	20.	2 01	3.5	3079	5	-0042	. 303	) 26	,58				144	35					
			5 I J	010	3	-001.0	3335	2.6	115	001.	299	0139	144	45					
	20.	ال 2	55	010.	)	-0000	0337	5 20	. 55				144	45					
			s 1 fi	0125	5	-0101	3344	6	× ±1	0011	467	0228	1 444	45					
			STL.	0150	J	-0105	7350	2 8	10	0010	1443	0255	144	43					
	20	? 0	- 5	015.	J	-0125	2347	3 20	16				14-	48					
			10	0.0.	J	- UC. 3	335i	2	7.}⊶	0010	1165	0309	14-	100					
	20.	2 (-	. 5	02.00	0	-00	4350	. 2	704				144	100					
			J.	125	J	-0)75	23=0	2.7	15	0005	751	0350	1 4 4	+33					
	20.	2 01	. 5	0200	J	-0075	3 4 5 0	3 6	11 +				1 44	83					
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TOURSE NOWSEE	4	1 10	GIFUDI 3 3	+	STATION TIA IGANT ANNIHÎ DAN ÎNB		OBEST STATE	DN 1	DEPTH 641 LIMPS 10 SECTION SECTION	1 22 123 123 123 123 123 123 123 123 123
311705	#E   7828	La   11.3	2 K W			15 1970	KBS 014	y +-	0503 1	00 0 x   x1   3   6   0014
* act resus	as need the mean	s liceraper as 1 pe	PARMA ARIA 86'6	.n. ₄ ,*DT	, <b>&gt;</b> 0 1	SPEED BARTS	म्बर् <b>व</b> ⊺	V15	NUMBER SMIT	
-42	MARKET ACTES F	me		(1 4 1 d)	TRANS DIR	Fritt   Ime	ai Der Suis wir	100	IEVEIS CASEEVA	THOMS
					04	SOR 13	n -014 -0:	25 7	11	
	(1.457 1.441) Did 479.04	7 1 1 1480		1 1	+ - +	-	SPECIFIC VOLUME	140	COMPUTED	AMBIENT LIGHT CHEAT VELOCITY IN SE
	#14848   a . 457	1	DIFTH m	1 (	3	511, ma 1	ANDWALT - 10"	01N 4	VELOCIES C	Of all PO's F Inger F NO H NO H S O S BH
	<u> </u>	ļ				27.22			- MC	स्थेल विश्वला स्थेला स्थला व्यक्त
	215	51) 0e5	33 <b>00</b>	-0137	3147 31467	2533	0026577	0000	14380	
	-13	STU	5313	-0137	3146	2533 2532	3325585	0026		
	215	lin S	0010	-0137	11465	2532	5725703	0020	14381	
		ST	)),,)	-01 1	157د	2540	0025805	JU52		
	216	UMS	1024	-0123	116.1	2545			14393	
		51:	))()	-0125	31 ×2	2551	0023844	0077	14396	
		5.1	1753	-0112	3242	24133	0019390	0120	14413	
	71-	M a	0073		32925					
		5.1	11115	- () 1 () c	3245	2656	0015187	0104	14430	
	15	18.5	30 ±7	-() ) ~ ~	3.42.76	2618			14440	
		51	0100	-00	3320	2050	JU12537	0198	14440	
		5.1	01-5	-01 n.	3443	2095	0011115	0550	14445	
	* L	0.0	U: 41.	-01-	33604	2706			14449	
		, I	しょうり	-0102	1302	1700	0.013050	0254		
	110	45	194	- 577	15787	2710			14473	
	1 4	5.1	0.00	-0073	3341	2720	0.10-7.4	0301		
	1.	11.5	)", + ;	- 00 · !	131.)1	27.7	120716		14470	
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	1	11	14.51	- 5 )**	1-154	. 74 -		3	14533	

7	BUISH	SHIP	LATITUDE		LONGITUE			MAGE	STATION (GMT)	Imé	YEAR	CRUISE	IGINATO STA	ION	DEPTH EO	14		0	WAY ASERVA	re Litions		ATHER	CLOVE	Ī		NODC STATICA
	UMM8	CO04		10		10	10°	71	KWIH DAT	- Lip		HILIMBE F	NU	4 8 E F	NHOM	1	/111	Dell	Pott	Ma Wa	ME		TYPE A	-1		NUMBE
311	705	WE	78293	V C	7346	W	260	83	09 04	224	1970	KBS	015		0530		1	00	0	X		X1	0 6			0015
	'	'				,		'DT	<b>'S</b> '.	MINE	J		-		NUMBER		SPECIA		1							
		rver flers	7 140 MAPS 1		LI ON THE	WEST SATE	IBIN MI	WATER	(BAN) DW	1410	BAROM (mbs		MAR WE	1 BULE COD	Ous LEVELS	04	SERVAL									
								COLOR	02	S12	14	5 - 02	3-6	134 7	12	-			-							
		CAST			-		т.			312	114	3 102	o L	1	L.	₩PUTI	· n		-	ant us	ant "				- 5	MEASURED SO
		0.841	E.Bri	CARD TYPE	oer	TH (m)		f *c	s	Secur	• •	SPECIFIC AN OMALT		3 4D DTN M	VE.	LOCIT	, 0	, -1 1	PO.		ION		iO <sub>1</sub> −N agairtí	HO <sub>3</sub>	N 3.0	VELOCITY m
		-		STD	0	000	-0	148	3143	25	30	0020	849	0000	14	37	4									
		1229	· '(	2 8 C	' 0	000	-0	148	31429	25	30 '			'	14	37	4		'			- 1			'	
				STO	0	010	-0	146	3145	25	31	0026	703	0026	14	37	7									
		229	) (	38 S	0	010	-0	146	31447	25					14	37	7									
				STO	0	020	<del>-</del> 0	138	3145	25	31	0026	085	0053	14	38	3									
		229	9 (	D6 \$	0	025	-0	137	31472	2.5	33				14	·38	4									
				STE		333		151	3154	25		0025		0079	_	37										
				STO		050		105	3177	د 5		0023	953	0129		57										
		224	,	JBS		J50		1:5	31794	25						37										
				STO		J75		054	3363	26		0014	943	0178	_	43										
		229	) (	3B S		075		J-54	32938	26						++ 3										
				210		100		102	3328	۵ م		0012	069	0213		+ 4 3										
		229	9 (	Jb S		100		102	33279	26						43										
				\$10		125		102	3350	26		0010		0242		4	-									
				STO		150		133	3367	27		0009	677	0268		+5										
		22:		) R 2		150		103	33059	27						45										
		2.2	) (	388		199		946	33620	27						+ 4.7										
				STO	_	200		830	3392	2.7		0000	538	0314		+ + 7										
		229	9 (	JH 2	_	245		052	33905	2.7						443										
				STO		250		052	33 = 1	27		0000	001	0355		47										
		22:	) (	38 S		257		051	34050	2.7					_	50										
				SIC		300	-0	051	3405	27	35	0000	900	0393	14	+50	0									
		22	9 (	) H S		3 9 5			34175																	
				STO		+00		047	3418	2.7		0005	925	0457	_	152										
		229	) (	3BS	T O	+33	-0	O43	34238	2.7	53				14	+54	4									

	HIP LATIS	I ID	ONGITUDE 3	MARSDEN SQUARE	STATION T (GMF)	YEAR		TAHON IUMBER	HISSO OI MOTICA	MAI VARTI Jan	OB5E	VAVE BVATIONS GTME WALLET	WEATHE	CLOUD TYPE AM		NODC STATION NUMBER
1705	4E 703	03% 0	740c W	260 04	9 4 05 €	og 1970	) K85 010		0430	1	00 (	X	*1	0 5		0016
MILE BALL IN	E TIMPLETI FOR BLA BANKES BY BUTTEVEN	under Electronicals Erenti Tens Meta	is desemblication between		S O	OF IM		WET BUIDE OF	DE LEVELS	SPECIAL DESCRIPTION OF THE PROPERTY OF THE PRO						
	Cast				0.2	512 14	46 -028	-034 7	12			CABIENT (ICHT				"MEASURED SOU
	Distraction	CAPD AST DYPE	DEFIN (m)	f *c	s .	SIGMA 1	SPECIFIC VOLUM	DYN 4	SOU VELO	NO 0	-1.1	ro, P ∫to	ATAL P	NU, N	NO, NS	VILOCITY + s
,		510	0000	-0103	3154	2539	0025 77	0000	0 143	69						
'	302	UbS	0000	-0163	31536	2537			143	69						
		STO	0010	-0163	3153	2537	002599	002	6 143	70						
	002	055	3010	-01t?	5.F35	2539			1+3							
		510	0020	-0160	-17>	2 1 3 4	002+53	005								
	004	115	3020	-015	11 13 5	3.5 3			1+3							
		SiL	0030	-6150	2,711	2576	00724+									
		STU		-0143	5255	2020	001517	011								
	0.05	16.2	3,27	-0144	535 H	2620			144							
		STL	9075	-01.	3335	6000	001++0	3 315								
	205	~ 5	0375	-01.5	. ( ) ) ]	2000			199							
		5T2		- ) <u>1</u> 1 2	3314	2558	0.130	019								
	005	0 12	0100	-0111	331.+5	2603			144							
		510		-01.0	:343	25 12	301134									
		STI		-0104	2362	270:	000,70	0.4								
	352	UHS	3153	-0104	43,55	2734		2.3	144							
		5 I ii		-0)	3343	6761	J00355	5 023								
	303	U+S	0200	-00-11	3 45 40	2711	1017.1	0.3	1,44							
		51.	3253	-03/6	1443	2733	030741	5 053								
	005	111.5	T J2 51	- 0.01 -	111113	27'4	221 .1	. 0.7	144							
		ST	3333	-005.	24.14	7.40	000551	2 037	0 1-5							
	375	11-5	To 2 1	- , ( -	* * 10 m	27.										
	200	0.2	0052	-0).	**1.7	z 74	100-2-	7 0+3	3 145							
	207	51	34 3 3	- )0- 1	*** )	7:	JD 05 7 5	1 043								
	200	Or S	TD+12	-0127	106)4	4 7 > 1			1 -	A						

SNIP LATITUDE		ONGITUDE TO	SQUARE	STATION E (GAPT) IONTH DAT H	V10		ORIGINATOR  (BUISE STATI NUMBER NUM	ON	OFFIN TO DOTTOM	111 /111	Ded	WAVE ISERVATIONS INCUME U	(00	CI TYP	OUD		NODC STATION NUMBER
15 ₩E 7832	N 0	7423 W	260 K4	09 05 0	01g 13	70	K8S 017		0347	l	00	0 X	×1	4	5		0017
MB (FLORE TERPETE TOP BENGTON. MOTORS BANKER OF STREETS WAR	313318000-14 81 1163 6/77	LIT OGWENE WEST BETS IN	Thi se PT	TEANS DIE	SPEED OF FORCE	ia Britan (mini	1	415	OBS (EVELS	SPI CU DBS/BYAT							
				102	S12	14	5 - C28 -0	34 7	10								
OLUMN IN CAST	CAPD FYPI	DEFIN (M)	1 **	s .	SIGMA	,	SPECFIC +OLUME AMOMALE E 10 F	DIN M	COMP. 300 VEIO	MD O		PO <sub>4</sub> = P	CHI	NO	- N ]	אטן א	SUMED SOU OCITY # 14
•	STO	0300	-0156	3134	252	3	0027493	0000	143	69							
016	085	0000	-0156	31343	2523				143	69			1				,
	STU	0010	-0155	3135	2523	3	0027447	0027	143	71							
016	085	0010	-0156	31348	2523	3			143	71							
	STU	0020	-0155	3144	2531	Į.	0026720	0354	143	74							
016	ОБЅ	0025	-0155	3,514	2537	7			143	76							
	STU	0030	-0151	3163	3546	5	0025277	0080	143	30							
	SIII	0050	-0137	3214	2557	7	0021305	0127	143	37							
)1 t	DB 5	0350	-0137	32135	2507	7			143								
	SID		-0131	3288	26.47		0015660	0173		-							
316	Uns	0375	-0131	32862	2541				144								
	ST	0100	-01±7	3723	2675		1015011	U 50 4									
315	Ous	01 00	-0117	33631	2675				144	-							
	510		-0101	3355	2700		3013601	0238									
	STJ		- 3346	5375	2716		0:03881	203									
015	002	0150	-0036	337∃1	£71				144								
315	Obs	101 > +	-0070	33359	2733				144								
	STO		-0070	3397	2733		2007532	0304	_								
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ETT CPUISE NUMBER	CODE	LATITUDE 1 10	1	NGITUDE 1 10		UAMI	STATION T (GMT)		141	CRUISE HUMBER	STATE STATE NUMB	304	DIPTH 10 \$0Pom	140°13 140°13	Dif	WAVE DESERVAT HGT/PE	IONS	WE ATHE	CLOUD			NODE STATION NUMBER
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FOR BY G BO FORM TEN 1000 PUMBER	SHIP	LATITUDI	1 10	LONGITUDE		GUAPI	STATION (GMF MONTH DAY		78.48	CRUISE	GINATOR STATE NUM	OH -	DEPTH TO BOTTOM	14371 14871		WAY ASERVA THOU		WEATH		uo			NODE STATION NUMBER
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CHUISH CODE .	TITUDE	LONGITUDE 1 10	B WARSON	STATION TO {GMT} MONTH DAT THE	PAP TEAP		TION HATE			045	WAYE SERVATION HGILME ]	13 13 14 14	CODE	TIPE AM			NODC STATION NUMBER
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	CPUISE C	CODE	LATITUE	1 10	1 ONGITUDE	3 SQUARE	(CMI)	TIAP		FICH H 00 B	10 10	OBSERVATIONS	COOF CLOUD	STATION
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© apri vata guas ⊓ami ara-as- alamira t	TI OM BANGE EFFERMAN E ASTERNAS PRIMI PART NET	ect opsigns sonic sonicit na	Thirds To T	*S"   WI	SPTED BARCIN SPTED BARCIN OF IMAN FORCE 1	DET BUILD WET	SUISE KE	( <b>P</b> )
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٤٢		0010	-0157 -0157	3191	2509	0023076	3023	14378
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TET CEUISM NUMME	CODE	LATITUDE				MARSDEN SQUARE	STAT	(GMT)		T ( A )	CEUISI		ES HON MM E	OFFIH OF MOTICH	MAPU MAPU		WAVE DBSERVATIO HGI[MI]		WEATHE CODE	CLOUD			NODC STATION NUMBER
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	MINDER TO	CAST T O™ NO	Y PO						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ANOMALY	4 10	£ 10	*****	SEC	J,	PO, P		al P	NO <sub>2</sub> N	NO <sub>1</sub> N	5.0, 3	Р
			STD	0000	) -	0161	31	01	254	4	0025	443	0000	14	370			1	-		-		-
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	171	I Jr.		0025		01e2		713						14.	376								
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SHIP LATIT	1 10 10	NGITUDE 3	S MAPSOIN SQUAPE	STATION TI  GMT   CONTR <sup>†</sup> DAT [HI	1545	OBIGINATOR CRUSSE STATI	ON(		/	OBSE	NAVE EVATION GEMENT		WEATHER CODE	CLOUD TYPE AMI	NODC STATION NUMBE
es neman in the same or common	9 N 706	129 m <sup>T</sup>	*DT	's ~		O KES 029	r <u>*c</u>	0434   NUMBE 081 (EVELS OF	1 SPECIA SSEVATI	-	o [x ]		X1	0 6	0029
[Cational]	,			24		74 -014 -0	, 1	11	10		A,WEIF NIT	ucad.			 MEASURED SON
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	Distriction of a	(A#D 51 (YPE	DEPTH IM	1.77	5 .	SIGMA T	ANOMALT & 10	0110	VELOCITY		P TOTAL P N	O, H HO, -H S.O, S
	. File 1	1			+		+		- WC	- mg as		901 901
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		× T	3057	-01t7	3160	2544	3025427	0134	14379	5		
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		51.	0075	-0147	1213	2627	0017507	0135	1440	•		
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		5 111	0100	-011"	7 1 19 44	2011	0011421	0224	1443			
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RI D M	SHIP	LATITUDE	CONGIT	UDE 3	3 10	ISDEN JART	STATION (G	411	TE		CRUISI		LION	DEFTH	au umani		WAY SERVA	LTIONS	WEAT	CLOU	5 1	,	NODC STATION
NUMBER .		1 10				+ - 1	MONTH D		V <sub>10</sub>		HUMBER			FOTTOM	/111	Die	+ +	Me Mile	-	EXPU A	_+		NUMBER
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	BIODE HI		DI	PTH (m)		t '¢	3	• •	SIGMA	T	AM OMALT		DYN M	ALTO:	ITY C	2 -1 +	10,		IAIO1	NO, N	NO <sub>3</sub> -N	2 0 2	OCITY # W
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MATERIAL CEUI	isi c	SHIP L	ATITUDE 1 10	LONGITUDE		SDEN JAPE	STATION (GMT)		TIAR	CBURSE HELIMBER		ATION UMBA	DEPTH TO BOTTOM	EAT MEPIL DEP		WAVE SERVATE HGT/PH		WEATHER	CLOUD		NODC STATION NUMBER
31170	05	wE d	1537N	06304 m	907		0+ 07		970	KHS	032		0626	1	_	0 X	1	×1	6 2		0032
• 1997	70(7 m/d 11 M/ds)		e erugens (spreamin (erugens (spreamin)	AIT PHIME VEH TH	9474 (975) sfd	*DT	TRANS DIE	WIND SPEED OF FORCE	BAPOA (mb	AFTER.	1 MP1 EAT	1001 °C   VIS	NUMBER COS TEVELS	SPECIA OPSERVATI							
							10	504	15	9 -04	•7 -	054 7	12								
		CAST TIME DURATION MINUSER TIME No. 1 10	CAST TYPE	DEFTH (re	•	1 °C	3 .	SIGMA	1	SPECIFIC		, DTN M	COMPL SOUI VELOC m S	CHY O		AMBITNI Turn PO, US of	r I to		NO, N NO	, vi	ASURED SOU EXOLITY IN S 3   gH
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			5 <b>T</b> (	-		168	31 ∓0	254	d	0023	176	0023	143	73							
		007	085	001		168	31900						143	73							
			STL			163	3504	257		0022	1134	0045	143	79							
		))4	OBS	000.		161	12017						143	<b>61</b>							
			510			160	3214	259	-3	00.1	300	0007	143	33							
			ST.			157	3 < 3 4	200		JU1:	Hing	0108	143	11							
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		007	045	0075		144	12404						1 +4	J 5							
			STE			133	5324	. 67		0013	077	J190	144	23							
		701	0155	010.		135	33255						144	23							
			516			127	3363	270		0010	147	0219	144	30							
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			5 (1)			017	3473	27,		0001	101	0360	145	04							
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			ST	000	) - )	01.	1474	174	3	0001	835	0377	145	30							
		303	£16.5	TUr 1	) - j	01 +	3 - 7 - 0	274	3				145								

]	SHIP EATITUD	1 10	HGITUDE T	MAPSDEN SQUART	STATION T (Get) WONTH DAY TH	1 10	CBUISE HAUMAER	STATION NUMBER		ro w	/		WAVE ERVATION HGEMP [1	.,	CODE	'INSTR CLOUD TYPE AM		HODE STATION NUMBER
11705	WE 81525	N 00	304 h		09 09 0		KBS 0	33	05	94	ı [	00	0 X		X1	0 4		0033
* mrt 940 fr.	ras 15 gentuilli Had dhiadhlas I deeddaa a'r billiannas ara	) 	epuente viena sara	DT	JEANS DIE	SPILE IMPORTANT IN INC. INC. INC. INC. INC. INC. INC. I	hal DET SUR	b WET BULE K	ODE OF	05 /815 001	NEATU ZM CITI							
	Castfmi outsism enumer (as enumer (as	CARD	D(#7H  m.)	1.0	3	SIGMA 1	SPECIFIC VO	NUME DIM	آ_ْ	COMPUTE SOUND VECOCITY	о,	-1 1	AMBRINI Ive to PO <sub>2</sub> = P usp set 1	I IO		NO <sub>3</sub> —N	HO <sub>1</sub> -N 5.0	MEASURED SOUP VILOCITY W/100 Dy = 5- pH
		STU	0000	-0161	3187	2505	00234	43 000		1437								
	345	OBS	0000	-0161	31867	2505				1437								
		STO	0013	-0167	3182	2552	00238	11J 00.		1437								
	045	UHS	0010	-0167	31818	2502				1437								
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		510	0050	-01c2	3225	2540	0020-	.77 01		1438								
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